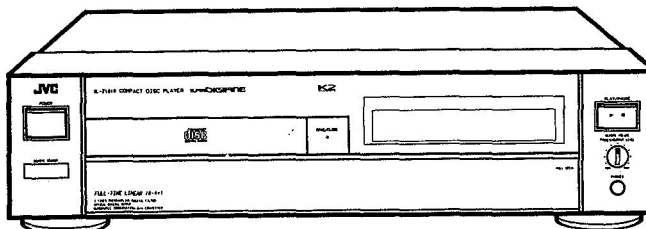
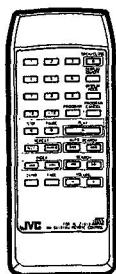


JVC

SERVICE MANUAL

MODEL NO. **XL-Z1010TN**



COMPACT
disc
DIGITAL AUDIO

Contents

	Page		Page
Safety Precautions	1-2	Pickup Replacement Procedures	1-32
Important for Laser Products	1-3	Application Points for Grease	1-33
Instruction Book	1-4	Flow of Operation Until TOC is Read	1-34
Description of new technology	1-12	Troubleshooting	1-35
Description of Major LSI ICs	1-16	Block Diagram	Insertion
Other LSI ICs and Internal Block Diagram	1-23	Printed Circuit Boards	Insertion
FL Display Tube Connection	1-26	Schematic Diagrams	Insertion
Disassembly Procedures	1-27	Parts List	Separate-volume Insertion
Adjustment Procedures	1-29	Connection Diagram	1-43
Maintenance of Laser Pickup	1-31		

Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (Δ) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage current check (Electrical shock hazard testing)
After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

Do not use a line isolation transformer during this check.

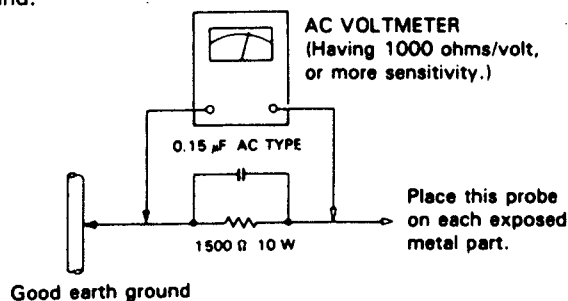
- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5 mA AC (r.m.s.).

- Alternate check method

Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 Ω 10 W resistor paralleled by a 0.15 μ F AC-type capacitor between an exposed metal part and a known good earth ground.

Measure the AC voltage across the resistor with the AC voltmeter.

Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts
5. If mains voltage selector is provided, check setting for local voltage.

Important for Laser Products

1. CLASS 1 LASER PRODUCT
2. DANGER: Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.
3. CAUTION: There are no serviceable parts inside the Laser Unit.
4. CAUTION: Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.
5. CAUTION: The compact disc player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.
6. CAUTION: If safety switches malfunction, the laser is able to function.
7. CAUTION: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

VARNING: OSYNLIG LASERSTRÅLNING UPPSTÅR VID KOMPONENTENS ÖPPNING NÄR SÄKERHETSBRYTAREN ÄR FRÅNSLAGEN.

ADVARSEL: USYNLIG LASERSTRÅLING VED ÅBNING, NÄR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION.
UNDGÅ UDSÆTTELSE FOR STRÅLING.

ADVARSEL: USYNLIG LASERSTRÅLING VED ÅPNING NÄR SIKKERHETSBRYTAREN ER AVSLOTT.
UNNGÅ UTSETTELSE FOR STRÅLING.

VAROITUS: LAITE SISÄLTÄÄ LASERDIODIN, JOKA LÄHETTÄÄ (NÄKYMÄTÖNTÄ) SILMILLE VAARALLISTA LASERSÄTEILYÄ.

REPRODUCTION AND POSITION OF LABELS

IDENTIFICATION LABEL BY DHHS (Only for the U.S.A.)

JVC	MODEL NO	*1
COMPACT DISC PLAYER		
AC120V 60Hz 15W		
US JVC CORP		
41 SLATER DRIVE ELMWOOD PARK		
N.J. 07407		
MANUFACTURED AT	*2	
MADE IN SINGAPORE		
MANUFACTURED	*3	
SERIAL NO	*4	

Note:

- *1 Model number
- *2 Identification code of factory
- *3 The date of manufacture
- *4 The serial number of production

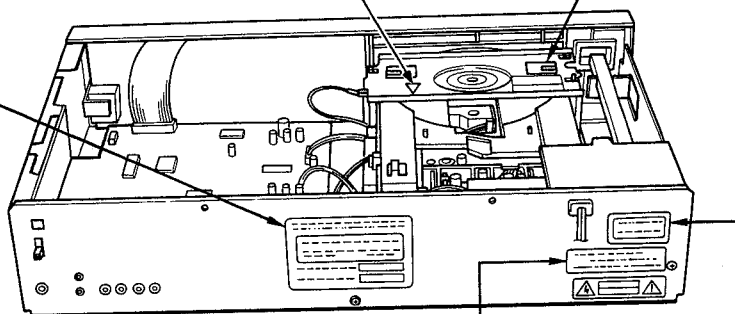
HAZARD SYMBOL LABEL (Only for Continental Europe)



WARNING LABEL

ADVARSEL: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

DANGER: Invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM



CERTIFICATION
THIS PRODUCT COMPLIES WITH DHHS RULES
21 CFR SUBCHAPTER J APPLICABLE AT DATE
OF MANUFACTURE

CERTIFICATION LABEL BY DHHS (Only for the U.S.A.)

CLASS 1
LASER PRODUCT

CLASSIFICATION LABEL (Except for the U.S.A. and Canada)

TROUBLESHOOTING

What appears to be a malfunction may not always be serious. Make sure first..

Although the disc is inserted in the CD player, DISPLAY shows no data.

Is the disc placed upside down?
— Place the disc on the disc tray with its label side up.

Selections cannot be programmed.

Is the "PROGRAM" indicator lit?
— Press the [PROGRAM] button.

The remote control unit does not function.

Are the batteries fresh?
— Replace the batteries with new ones.

The sound is intermittent and is harsh to the ear.

Is the disc dirty?
— Wipe off the disc surface with a soft cloth.

Is the disc scratched?
— Replace the disc with a new one.

Is the disc warped?
— Replace the disc with a new one.

SPECIFICATIONS

System	: Compact disc player
Signal detection system	: Non-contact optical system
Number of channels	: 2 channels
Frequency response	: 2 Hz – 20,000 Hz
Dynamic range	: 99 dB (1 kHz)
Signal/noise ratio	: 108 dB (at digital 0)
Channel separation	: 102 dB (1 kHz)
Harmonic distortion	: 0.003% (1 kHz)
Wow and flutter	: Less than measurable limit
Output level	: 2.0 Vrms (full scale)
Digital output level	: 0.5Vp-p (75Ω terminal impedance)
Number of program steps	: 32 steps
Dimensions	: 435(W) × 115(H) × 375 (D)mm (17-3/16" × 4" × 11-7/16")
Weight	: 8.6 kg (19 lbs)
Accessories	: Signal cord (1 m • 3.28 ft) 1 Remote cable (1 m • 3.28 ft) 1 Remote control unit (RM-SX1010U) 1 Battery (AAA, R03, UM-4) ... 2

Design and specifications subject to change without notice.

POWER SPECIFICATIONS

Areas	Line Voltage & Frequency	Power Consumption
U.S.A.	AC 120 V ~ , 60 Hz	18 watts
Canada		
Continental Europe	AC 220 V ~ , 50 Hz	
U.K.	AC 240 V ~ , 50 Hz	
Australia		
Other areas			AC 115-127/220-240 V ~ selectable, 50/60 Hz

Thank you for purchasing this JVC product. Before you begin operating this unit, please read the instructions carefully to be sure you get the best possible performance. If you have any question, consult your JVC dealer.

COMPU LINK Remote Control System

COMPU LINK (remote) Control System is a convenient system using COMPU LINK-1/SYNCHRO terminals on the rear panel. For further details, refer to page 6.

CONTENTS

Precaution in use	5
How to handle a compact disc	5
COMPU LINK Control system	6
Before use	6
Connection diagram	7
Description and functions	8
Display	9
Remote control unit (RM-SX1010U)	9
How to operate	10
Troubleshooting	11
Specifications	11

PRECAUTION IN USE

Installation

- Select a location which is level, dry, and **Neither too cold nor too hot (between 5°C (41°F) and 35°C (95°F)).**
- Avoid a dusty location or a location subject to vibrations.

Power

- When unplugging from the wall outlet, always pull on the plug, not on the power cord.

Malfunctions, etc.

- Do not insert any metallic object into the player.
- The discs to be played on this player are limited to those bearing the mark below (Fig. 4).
- Placing anything other than a compact disc on the platter may cause the player to malfunction.
- If something goes wrong, turn the power off immediately. If the same phenomenon occurs when the power is turned on again, turn the power off and consult your JVC dealer.

Volume setting

As a compact disc causes almost no noise, it is difficult to set the volume level by listening to noise as in the case of an ordinary analog turntable or a tape deck. If the volume level is raised too much because the beginning of the selection is quiet, the speakers may be damaged by a sudden increase in the sound level.

Condensation

As the compact disc player uses optical parts, moving it from a cold to a warm place or using it in a room subject to excessive humidity or in a room where a fire has just been lit may cause condensation on the optical parts. This phenomenon may prevent the light from being correctly transmitted, and may cause noise or malfunction.

If dew condenses and the player does not function correctly, leave it on for several hours with the power turned on.

If the player does not function even after such a period, consult your dealer.

Note:

- When this unit is placed near a tuner or a receiver tuned to AM reception, noise may occur. If this happens, move this unit as far away from the tuner or the receiver as possible, or briefly turn off the power of this unit.

COMPACT
disc
DIGITAL AUDIO

HOW TO HANDLE A COMPACT DISC

Since compact discs are made of plastic, they can be easily damaged; if the disc gets dirty, dusty, damaged or warped, the sound will not be picked up correctly, and such discs may cause the player to malfunction. When handling compact disc, use the following precautions.

- Do not touch the surface of the disc (reflective silver i.e. the side without the label) when handling the discs.

Storage

Make sure to keep discs in their cases.

If discs are piled on top of one another without cases, they can be damaged. Do not put discs in a location exposed to direct sunlight or in a place with high temperature and humidity.

Avoid leaving discs in your car.

Maintenance of discs (Fig. 5)

When fingerprints and dirt adhere to a disc, wipe the disc off with a soft, dry cloth from the inside towards the outside.

If it is difficult to clean, wipe the disc with a cloth moistened with water.

- Do not use record cleaners, benzine, alcohol or antistatic agent.
- Do not damage the label side or stick paper or adhesive to the surface.
- In the case of an 8 cm (3") single CD, place it in the disc hold, for an 8 cm (3") disc, within the platter.

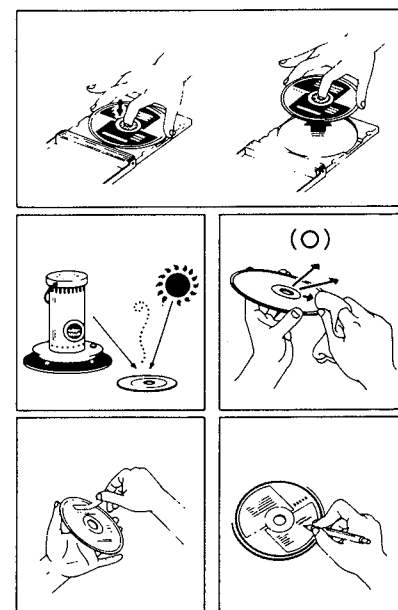


Fig. 4

Fig. 5

COMPU LINK CONTROL SYSTEM

This is a convenient system which was originated and developed by JVC. The following is a brief explanation of its major points.

Automatic Source Selection

When the provided remote cables are used for connecting this unit to other components which have COMPU LINK-1/SYNCHRO terminals, the switch-over of all system components is possible with simple one-touch of the source selector button of the JVC amplifier or receiver. By doing this, the corresponding component will start playing automatically. The source select button of the remote control unit or the select button of the desired component can also be used for this purpose.

When the components have been switched over, the previously used component will stop playing within five seconds.

Synchronized Recording

Synchronized recording refers to the process in which the cassette deck starts recording in synchronism with the CD player. Perform the synchronized recording as follows.

1. Set the cassette deck to the REC/PAUSE mode in accordance with the procedures in the instructions.
2. If you want programmed recordings, program the desired selections in any order you wish to hear them.
3. Press the [PLAY (▶)] button of the CD player. By so doing, the cassette deck is placed in the record mode and synchronized with the CD player for recording. Synchronized recording thus can be made possible.

Notes:

- **Synchronized recording stops automatically when the CD player stops playing.**
- **To cancel synchronized recording, press the [STOP (■)] button of the CD player or cassette deck.**
- **When the REC/PAUSE mode is set by pressing [PAUSE (⏏)] button after pressing the [REC (○)] and [PLAY (▶)] buttons simultaneously, synchronized recording is not possible. For details, refer to the instructions of the cassette deck.**
- **Abnormal operation will result if the power supply of the component(s) is interrupted. If this happens, you must start all over again.**
- **Ensure that the COMPU LINK-1/SYNCHRO terminals of the individual components are connected with the provided remote cables. Also be sure to fully read the instructions for each component.**
- **Only the JVC cassette decks with the synchronized recording feature can be used with this equipment for synchronized recording. Contact the JVC dealer for details.**

BEFORE USE

Set the voltage selector to your local line voltage. (Fig. 6)

When this equipment is used in an area where the supply voltage is different from the preset voltage, reset the voltage selector to the correct position.

(Not provided on units for U.S.A., Canada, Australia, U.K. and Continental Europe.)

CHECKING YOUR LINE VOLTAGE (Except for U.S.A., Canada, Australia, U.K. and Continental Europe.)

Before inserting the power plug, please check this setting to see that it corresponds with the line voltage in your area. If it doesn't be sure to adjust the voltage selector switch to the proper setting before operating this equipment. The voltage selector switch is located on the rear panel.

CAUTION:

- Before setting the "Voltage selector switch" to proper voltage disconnect the power plug.

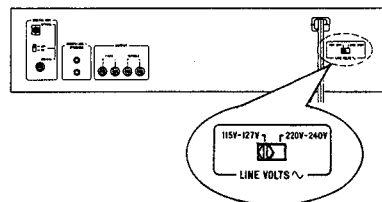


Fig. 6

CONNECTION DIAGRAM

- Do not connect the power plug unless all the connection is completed.
- Connect the audio plugs firmly.
- Either one of these two COMPU LINK-1/SYNCHRO terminals can be used.
- The synchronized recording is only possible with JVC products which have the COMPU LINK-1/SYNCHRO terminals. For further details, consult your JVC dealer.

Connecting to the Analog Output Terminals

The sound volume from speakers connected to these terminals can be adjusted by the CD Player's remote control unit and PHONES LEVEL on the front panel.

The sound volume from speakers connected to these terminals is constant and independent of the CD Player's PHONES LEVEL position.

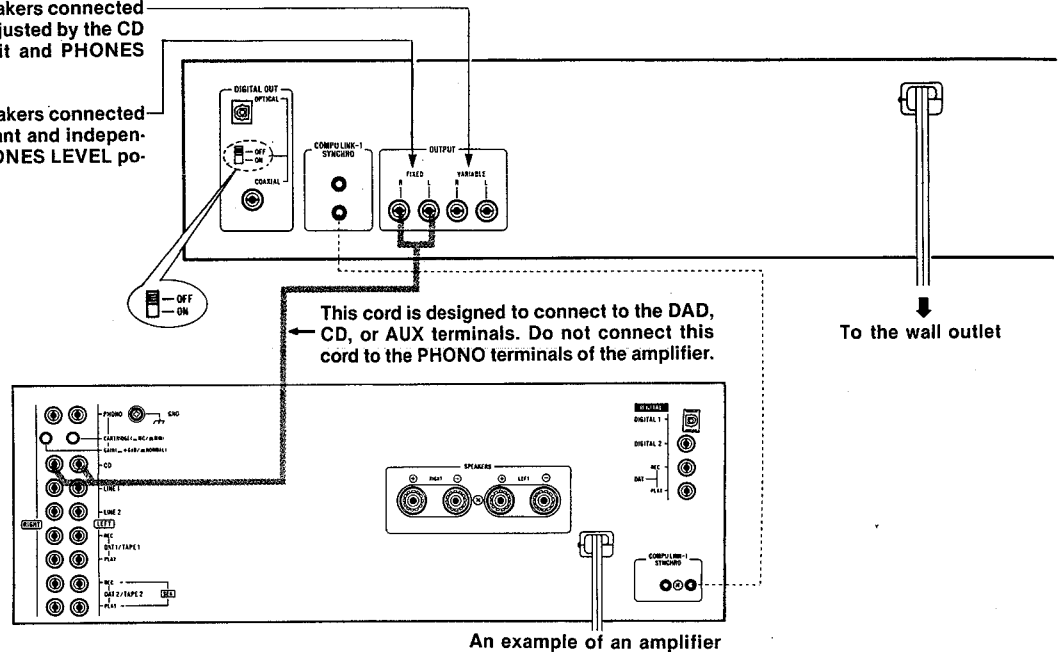


Fig. 7

Connecting to the Digital Output Terminals

Notes:

- Never connect the digital output cable except to the digital input terminal.
- Connect either terminal coaxial or optical.
- When connecting the coaxial terminal, use RCA 75 (1 m) coaxial cable with PIN for the connection cord.
- When connecting the optical terminal please purchase an optical fiber cable for the connection cord. For details, consult your JVC dealer.

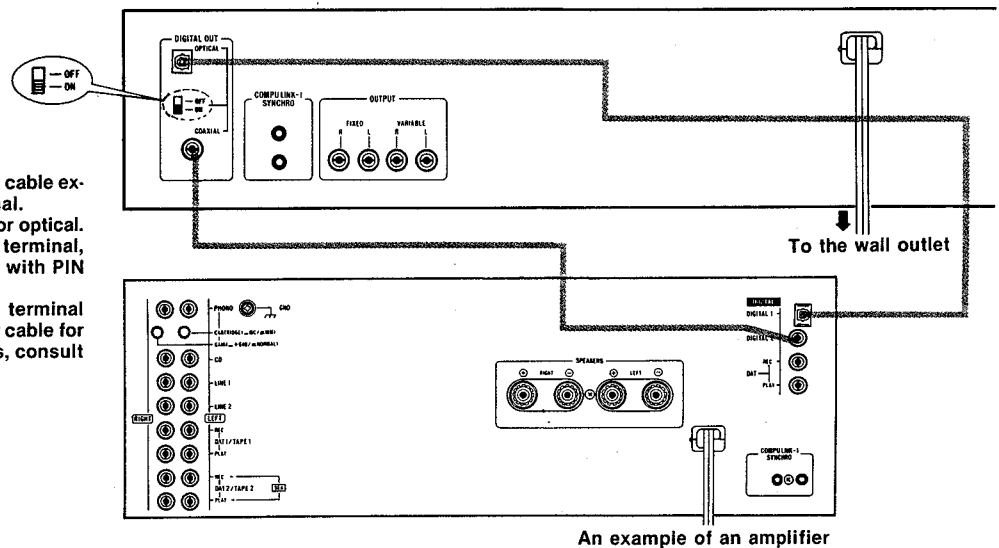


Fig. 8

DESCRIPTION AND FUNCTIONS

1 POWER

Press to turn on the power, the display will light. Press again to turn the power off. The display will go off.

2 Panel Cover

Pull the indicator "PULL OPEN" to open the panel cover.
Push the cover to close it.

3 Disc Platter

Load the disc to be played.

4 OPEN/CLOSE ()

Press to move the disc platter in and out. Press once and the disc platter will move out; now you can load a disc. Press again to move the platter back in. The disc is now ready to be played.

If it is pressed during play, play will be interrupted. And the program will be erased from memory and the disc platter will come out.

5 Display Window

This shows the total number of selections on the disc, the total playing time, the elapsed playing time, the remaining playing time, various program data, etc. For more details, see "DISPLAY" on page 9.

6 PLAY ()/PAUSE ()

Press to start play. If the disc platter is out, press this button, and the disc platter will then move in and play will start (without pressing the [OPEN/CLOSE ()] button.)

Press this button again to suspend play temporarily. The optical pickup stops and the disc continues to rotate. This status is called the pause mode.

7 REMOTE SENSOR

8 REPEAT ALL/1

Press this button to play one selection, all the selections or the programmed selections of the disc repeatedly.

When desiring all the selections, press the button once. "ALL" and "REPEAT" will be lit in the display window. When desiring one selection, press the button once again. "1" and "REPEAT" will be lit in the display window. To release this repeat play, press the [REPEAT ALL/1] button again.

9 REPEAT A B

To play a certain selection of the disc, press this button during play or pause mode. Press this button at the point where you want the play to start, and "A  " will light in the display window. Press this button again at the point where you want to end play, and "A  B" will light in the display window. Play will then start between the A and B points. To release this repeat play, press the [REPEAT A  B] button again or press the [REPEAT ALL/1] button.

10 EDITING

When editing the disc data in the cassette tape, the time interval can be established in advance in accordance with the tape length. When this button is pressed, "EDITING" appears in the display window.

11 SIDE A/B

Use this button to designate the tape side when programming for edit recording.

12 PRGM CANCEL

Press this button to cancel a programmed tune. Each time it is pressed, one tune is cancelled.

13 PROGRAM

To program the sequence of the selections to be played, press this button while the CD player is in the standby mode. The PROGRAM indicator lights and up to 32 selections can be programmed.

14 AUTO SPACE

By pressing this button during recording, a blank (soundless segment) of about four seconds can be produced automatically between selections.

Press the button again to release this action.

15 SEARCH ()*

Press this button while in the play or pause mode to scan backwards. When this button is pressed continuously, the CD player will backward-search slowly for about 3 seconds, and then go into a higher speed search.

16 SEARCH ()*

Press this button while in the play or pause mode to scan forward. When this button is pressed continuously, the CD player will forward-search slowly for about 3 seconds and then go into a higher speed search.

* When pressing the [SEARCH ()] or [SEARCH ()] button during play, you can hear slight sound reproduction. With this sound you can monitor your selections.

17 AUTO SEARCH ()

Press this button to locate the start of the current selection or to go back to the previous selection during play. Play will go back one selection each time the button is pushed. If the button is held down, play will continue to go back one selection at a time until the button is released.

18 AUTO SEARCH ()

Press to go to the start of the next selection. Every time this button is pressed, the pickup goes forward by one selection. Holding the button down moves the pickup forward continuously.

19 STOP/CLEAR ()

Press to stop play. A few seconds after the disc has stopped rotating, the player goes into the standby mode with the track number "1" shown in the display window. The player is then ready to play.

20 10 key operating buttons

To designate the desired track numbers or establish the time interval during the tape editing, use these buttons. If the desired number is 10 or less, use the [1]~[10] buttons. However, to assign a track number greater than 10, use the [+10] button and the [1]~[10] buttons.

Examples

- To assign the 25th track, press the [+10] button twice then press the [5] button.
- To assign the 30 minutes, press [+10] button twice then press the [10] button.

21 +10 button

Use this button to designate track numbers greater than 10 or establish the time interval. For details, refer to "10 key operating buttons"

22 PHONES

Insert the headphones plug into this jack.

23 REMOTE VOLUME PHONES/OUTPUT LEVEL

Adjust the volume of the headphones and the output from the variable output terminals by this knob.

Note:

- When listening to music by the headphones, be careful not to abuse your ears by setting the volume too high. Adjust the volume properly to obtain ear-pleasing listening.

DISPLAY

24 AUTO SPACE

Lights when auto space button is used.

25 NORMAL

Lights during normal play.

PROGRAM

Lights when selections are ready to be programmed.

INTRO

Lights when the first 15 seconds of individual selections are played.

26 TRACK

Lights when all the selections of the disc are shown.

Shows the programmed selection numbers or the current selection number of the disc during programmed play.

27 INDEX/STEP

INDEX : Shows index numbers.

STEP : Shows the numbers of memory steps of the programmed selections.

28 EDITING

Lights during editing recording.

AUTO : Lights during Auto Edit Recording.

PRGM : Lights during Program Edit Recording.

MULTI : Lights during Multi Edit Recording.

29 Program Chart

This chart indicates the number of each selection of the disc.

When a selection is programmed, "□" mark which surrounds the selection number lights.

30 • mark

This mark (red) indicates the number of the current selection. Thus it can be used to scan or program the desired selection.

31 REPEAT

Lights when the repeat play is ready.

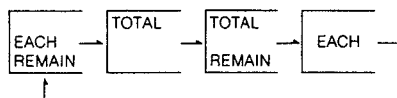
ALL : Lights when the repeat play of all the selections is entered.

1 : Lights when the repeat play of only one selection is entered.

A → B : Lights when the repeat play between A and B is ready

32 TOTAL/EACH/REMAIN

Each time the [DISPLAY MODE] button on the remote control unit is pressed, the indication changes in the following order.



EACH : Shows elapsed time of each selection.

EACH : Shows the remaining playing time of each selection. (Up to 31st selection can be displayed.)

TOTAL : Shows the elapsed playing time of the disc or the programmed selections.

TOTAL : Shows the remaining playing time of the disc or the programmed selections. (Up to 31st selection can be displayed.)

33 Time indicator (MINUTE)

Shows the total playing time, elapsed playing time, or remaining playing time in minutes.

34 Time indicator (SECOND)

Shows the total playing time, elapsed playing time, or the remaining playing time in seconds.

35 SIDE

[A] : Lights when the A side of the tape is designated.

[B] : Lights when the B side of the tape is designated.

REMOTE CONTROL UNIT

• How to install batteries

1. Remove the rear cover of the remote control unit by pressing down on it with your thumb and simultaneously pulling it backwards, as shown in Fig. 9.
2. Install batteries (AAA R03 UM-4) as shown in Fig. 10. Be sure batteries are installed with correct polarity, (+), and (-).
3. Reinstall the rear cover of the remote control unit. Slide the rear cover back as shown in Fig. 11.

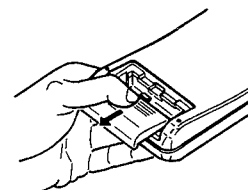


Fig. 9

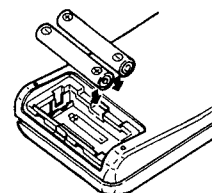


Fig. 10

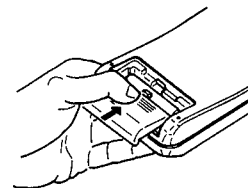


Fig. 11

• How to operate

The remote control range is approximately 7 meters (23 ft.).

Pointing the remote control on an angle to the receiver, will reduce the useful distance of the remote control.

Use gentle but firm pressure when pressing the remote control buttons.

• Batteries

Incorrect use of batteries can cause corrosion or damage. Note the following points to lengthen battery life.

1. Install batteries observing the correct polarity, (+) and (-).
2. Do not use new and old batteries simultaneously.
3. Batteries with similar shapes may have different voltage ratings. Be sure to use the correct batteries.
4. Remove batteries from the remote control unit if it will not be used for a long period of time.

HOW TO OPERATE

Notes:

- The lower the temperature, the shorter the battery life.
- Battery replacement

The service life of the batteries depends on the condition of use; the standard life is about one year.

When the batteries become weak, the effective distance of the remote control unit will become shorter. If this happens, replace the batteries with new ones.

Notes:

- The provided remote control unit (RM-SX1010U) has operating buttons which are basically identical with those of the CD player. The differences are the following buttons which are not on the CD player.
- [STOP (■)] button on the remote control unit cannot cancel the programmed selections.

INDEX

- (←): To start play from the desired index point, scan backward to the desired index point with this button.
- (→): To start play from the desired index point, scan forward to the desired index point with this button.

INTRO

Press this button to monitor the desired selections by hearing the first 15 seconds of individual selections. When this button is pressed in the standby mode, play starts in order from the first selection (or from the first programmed selection) and continues playing the first 15 seconds of each selection (or each programmed selection) to the end. When you want to hear the full-length play of such selection, press the [INTRO] button while you are hearing it. The introduction mode will be released and normal play will start.

FADE

To decrease the volume, press this button. Each time the [FADE] button is pressed, the PHONES/OUTPUT LEVEL knob takes a half turn.

VOLUME

- + : The volume increases slowly and continuously in proportion to how long the [+] button is being pressed.
- : The volume decreases slowly and continuously in proportion to how long the [-] button is being pressed.

DISPLAY MODE

This button changes the time data in the display window.
For further details, see "DISPLAY" on page 9.

DISPLAY ON/OFF

Press this button to turn the display on and off. (Only works on playing.)

Preliminary Operation

1. Turn on and adjust components such as an amplifier.
2. Turn on the CD player.
3. Press the [OPEN/CLOSE (▲)] button to slide the disc platter out.
4. With its label side up, load a disc on the CD player.
5. Press the [OPEN/CLOSE (▲)] button again to slide the disc platter in.

Notes:

- The display shows the number of tracks and total playing time of the disc for 3 seconds.
- You can also close the disc platter by pressing the [PLAY (▶)/PAUSE (||)] button. In such a case, play starts immediately with the first selection of the disc.

To Play From the First Selection

Press the [PLAY (▶)/PAUSE (||)] button.

To Play From Any Desired Selection

Designate the desired selection number by the 10 key operating buttons.

Examples:

- To assign the 25th track, press the [+10] button twice and then press the [5] button.
- To assign the 30th track, press the [+10] button twice and then press the [10] button.

To Stop Play Temporarily

Press the [PLAY (▶)/PAUSE (||)] button.

Note:

- To continue playing, press the [PLAY (▶)/PAUSE (||)] button again.

To Switch Selections During Play

- To skip to the next selection
Press the [AUTO SEARCH (▶▶)] button.
- To skip to the previous selection
1. Press the [AUTO SEARCH (◀◀)] button once and locate the start of the current selection.
- 2. Immediately after step 1, press the [AUTO SEARCH (◀◀)] button again.

To Repeat Play

- To repeat all the selections
1. Press the [REPEAT ALL/1] button once.
- 2. Press the [PLAY (▶)/PAUSE (||)] button.
- To repeat one selection
1. Press the [REPEAT ONE] button twice.
- 2. Designate the desired selection number by the [AUTO SEARCH (▶▶)] buttons.
- 3. Press the [PLAY (▶)/PAUSE (||)] button.

• To repeat between point A and point B

1. Press the [PLAY (▶)/PAUSE (||)] button.
2. Press the [REPEAT A ↔ B] button at the point where the start of repeat play is desired. (Point A)
3. Continue play until desired ending point is reached or locate such ending point by pressing the [SEARCH (▶▶)] button.
4. Press the [REPEAT A ↔ B] button again at the point where the end of repeat play is desired. (Point B)

Play will start from Point A and continue repeatedly between Point A and Point B.

Notes:

- To eliminate the repeat play between A and B, press the [REPEAT A ↔ B] button again. The [REPEAT A ↔ B] indicator will go off.
- Pressing the [SEARCH (▶▶)] button while the [REPEAT A ↔ B] indicator is lit causes the memory of Point B to be erased. Therefore, Point B can be renewed by pressing the [SEARCH (▶▶)] button and pressing the [REPEAT A ↔ B] button again.
- Repeat play between A and B is impossible during programmed play.

To Stop Play

Press the [STOP/CLEAR (■)] button.

To Remove the Disc

Press the [OPEN/CLOSE (▲)] button.

To Program Play

1. Press the [STOP/CLEAR (■)] button.
2. Press the [PROGRAM] button.
3. Program any desired selections with the 10 key operating buttons.
4. Press the [PLAY (▶)/PAUSE (||)] button.

Notes:

- A maximum of 32 out of 99 tunes can be selected.
- When the programmed play is performed, the selection number programmed first and the total playing time of programmed selections are displayed.
- The total playing time display is useful when making recordings from the CD player.
- When programming is carried out with the disc platter out, the total playing time of the programmed selections will not be displayed.
- When the total playing time of all the selected tunes exceeds 99 minutes and 59 seconds, the time display will be disabled and only the center bars will be displayed.
- Pressing the [AUTO SEARCH (▶▶)] button when in the programmed play causes the unit to skip to the next programmed selection.
- To stop temporarily during programmed play, press the [PLAY (▶)/PAUSE (||)] button. Press this button again to restart.

To Correct the Program

• To correct all the program

1. Press the [STOP/CLEAR (■)] button.
2. Start programming again from the beginning.

• To correct each content of the program

1. Press the [AUTO SEARCH (⏮)] button to go back to the program which needs to be canceled.
2. Press the [PRGM CANCEL] button.
3. Program a desired selection with the 10 key operating buttons.
* Newly programmed selection is added to the last of the program.

To Check the Program

Press the [AUTO SEARCH (⏮ , ⏭)] button.

To Perform Synchronized Recording

Synchronized recording is possible by connecting the cassette deck to the COMPU LINK-1/SYNCHRO terminals of the CD player through the remote cable.

1. Press the [REC (○)] and [PAUSE (⏸)] buttons of the cassette deck.
2. Press the [PLAY (▶)/PAUSE (⏸)] button of the CD player to start the synchronized recording.

To Perform Edit Recording

• Auto Edit Recording

1. Set a disc and press the [STOP/CLEAR (■)] button.
2. Press the [EDITING] button once.
3. Establish the time interval according to the tape length with the 10 key operating buttons. If the tape length is equal to the indication in the display, this operation is not needed.
4. Press the [SIDE A/B] button.
5. Place the cassette deck in REC PAUSE mode.
This operation is limited to the units using JVC's COMPU LINK system. For other cassette deck, set the deck in recording status before pressing the [PLAY (▶)/PAUSE (⏸)] button.
6. Press the [PLAY (▶)/PAUSE (⏸)] button.

When the last selection programmed on the A side of the tape ends, the edit recording automatically stops. To record in the other side of the tape, repeat the steps 5 and 6 after turning over the tape.

• Program Edit Recording

1. Set a disc and press the [STOP/CLEAR (■)] button.
2. Press the [EDITING] button twice.
3. Establish the time interval according to the tape length with the 10 key operating buttons. If the tape length is equal to the indication in the display, this operation is not needed.
4. Press the [SIDE A/B] button.
5. Program any desired selections with the 10 key operating buttons.
6. After you finish the programming of A side of the tape press the [SIDE A/B] button.
7. Repeat the step 5.

8. Place the cassette deck in REC PAUSE mode.

This operation is limited to the units using JVC's COMPU LINK system. For other cassette deck, set the deck in recording status.

9. Press the [PLAY (▶)/PAUSE (⏸)] button to start recording.
When the last selection programmed on the A side of the tape ends, edit recording automatically stops. To continue edit recording, turn over the tape and then repeat the steps 8 and 9 again.

• Multi Edit Recording

1. Set a disc and press the [STOP/CLEAR (■)] button.
2. Press the [EDITING] button three times.
3. Establish the time interval according to the tape length with the 10 key operating buttons. If the tape length is equal to the indication in the display, this operation is not needed.
4. Press the [SIDE A/B] button.
5. Program any desired selections with the 10 key operating buttons.
6. Place the cassette deck in REC PAUSE mode.
This operation is limited to the units using JVC's COMPU LINK SYSTEM. For other cassette deck, set the deck in recording status before pressing the [PLAY (▶)/PAUSE (⏸)] button.
7. Press the [PLAY (▶)/PAUSE (⏸)] button.

When the last programmed selection ends, recording stops automatically.

To continue editing of other discs,

8. Press the [OPEN/CLOSE (⏏)] button.
9. Set another disc.
10. Repeat the steps 5 and 7.
When the recording of one side of the tape ends, turn over the tape and repeat the steps 4 to 6.
* To establish the number 30, press the [+10] button twice and [10] button once.
To establish the number 46, press the [+10] button four times and then [6] button once.

Notes:

- When the programming is in excess of the designated time interval, the excess time blinks in the display. In such a case, press the [PRGM CANCEL] button to cancel the last programmed selection.
- During the programming, the selections which cannot be recorded in the designated time intervals blink in the program chart.
- To cancel the editing status, press the [STOP/CLEAR (■)] button twice.

Description of New Technology

■New K2 Interface

1) K2 Interface

The K2 interface has been designed to eliminate digital distortion occurring in digital audio processing.

2) K2 Interface in the Digital Audio Application

The digital audio application consists of digital and analog signal processing sections. In the digital signal processing section, the signal load fluctuation continuously changes depending on disk data input, but also on other conditions. Whereas, the analog signal processing section always performs a constant operation on the input digital signal waveform. However, both sections are connected for digital signal transmission, even if the power source radiation is separated so that a "non-correlation component (sound quality factor)" generated by

the load fluctuation of the digital signal processing section is transmitted to the analog signal processing section. Consequently, the analog signal section is always adversely influenced by the quality of the digital signal processing section (Figure 1).

Intrinsically, the purpose of the digital signal processing section is to read binary data from a disc and transmit the data without error. The waveform distortion, which is the "non-correlation component", and the jitter component are added to the digital signal transmission waveform. Although the processing circuit should not be affected by any load fluctuation, it always adversely affects the sound quality and necessitates redesign of the sound generating procedures. The K2 interface is the best design method for solving these problems (Figure 2).

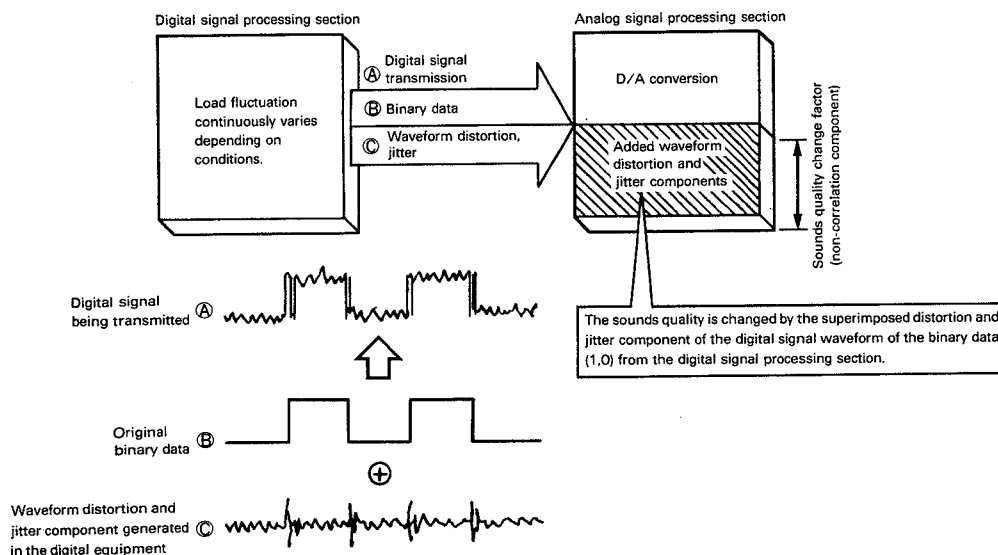


Figure 1. Conventional digital signal transmission mode

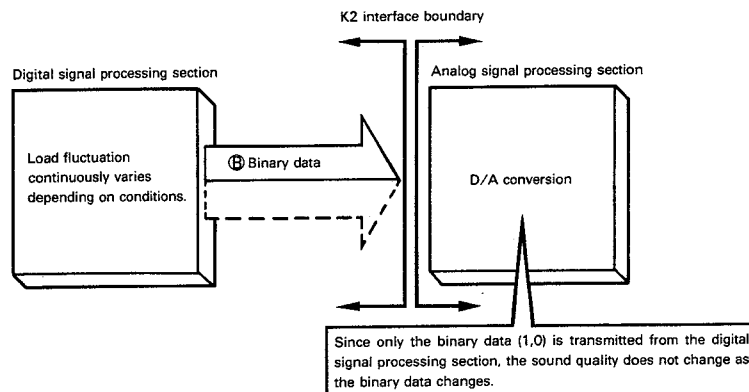


Figure 2. Binary transmission mode using K2 interface

3) What is the K2 interface?: It is a mode in which the binary 1 and 0 from the digital signal, including the "non-correlation component", are read using a separate reference clock signal and a new digital signal is generated in a block (analog signal processing section) completely separated from the first block (digital signal processing section).

4) K2 interface configuration: The K2 interface operates according to the following design:

- (1) Separation between block processing: The transmission block (first step) and receiving block (second step), including the power source and grounding, are totally electrically separated.
- (2) Sign transmission: The receiving block has a unidirectional transfer element, an optical coupler, for receiving binary from the transmission block, and has an extremely fast timing control circuit for completing the reception (**Figure 3**).
- (3) Timing data transmission: A unidirectional transfer element transmits the timing data between the timing control circuit and the transmission block.

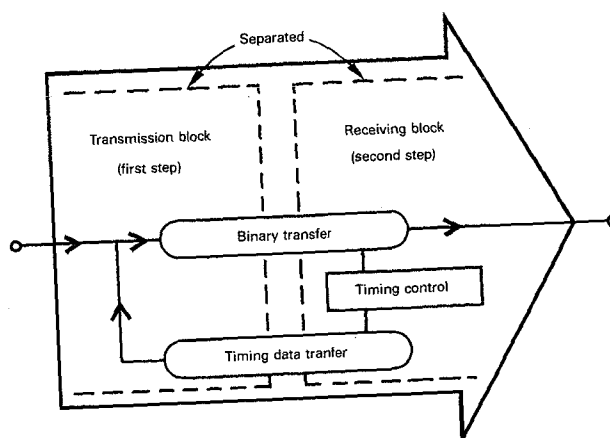


Figure 3. K2 interface diagram

5) K2 Interface Operation: Figures 4 and 5 show the circuit configuration and binary transmission timing chart, respectively. The crystal oscillator used as the synchronous reference is placed in the analog signal processing section, in which all synchronizing signals and timing control signals are generated. The synchronizing signal is transferred to the digital signal processing section via transfer element B. The binary data from a disc is transmitted as digital transmission signal ② to the analog signal processing section via transfer element A.

It is assumed that a current flows to the LED of transfer element A when the logic of digital transmission signal ② is 0, and that binary detection switch G is closed only when the logic of binary detection timing switch ③ is 1. Therefore, only if the logic of digital transmission signal ② is 0, does current flow to the transfer element A photo transistor when binary detection switch G is closed.

As a result, the binary data of the digital transmission signal can be transferred with influence of the waveform distortion component for only an extremely short time in which the binary pattern is detected. The binary data transfer is not affected. Binary output ④ is generated as digital receiving signal ⑥ in the D flip-flop.

6) K2 Interface Effect

By performing the D/A conversion of the ideal digital signal generated without a "non-correlation component" in the analog signal processing section, the sound quality alteration factor can be eliminated prior to the transmission element. This elimination has never before been accomplished. Consequently, the source sound can be reproduced faithfully. In addition, the crystal synchronization reference in the analog signal processing section enables a timing signal without jitter to be supplied for D/A conversion. This causes the sound quality to be improved without any FM modulation of the analog-converted signal in the jitter component.

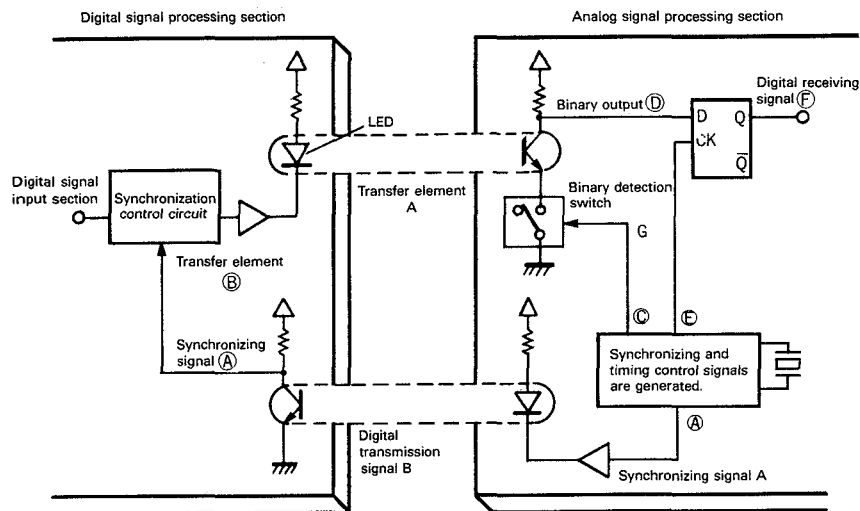


Figure 4. Conceptual diagram of K2 interface operation

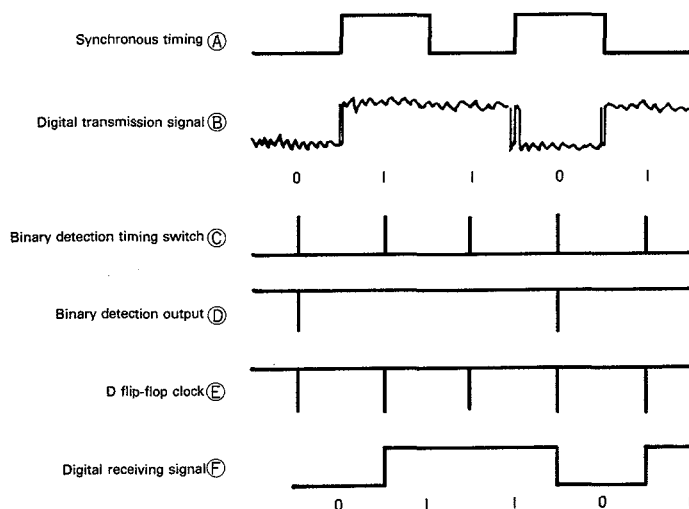


Figure 5. Binary transmission timing chart

■NEW DESIGN 2+2 FULL-TIME 18-BIT D/A CONVERTER CIRCUIT

1) 18-Bit Resolution Digital Filter

- (1) **18-bit digital filter:** The CD player digital filter is normally output in 16 bits and input to the D/A converter. As shown in Figure 6, the digital filter in this machine fetches an 18-bit signal having more information.
- (2) **18-bit digital filter effect:** The waveform is shown in Figure 7. The 18-bit digital filter effect is shown in the resolution after combining with the 18-bit D/A converter. The resolution of voltage alteration is improved four times, increasing the amount of information to alter the voltage smoothly.

2) 18-Bit D/A Converter

The D/A converter system shown in Figure 8 is employed in the XL-Z1010TN. It separates the 18 bits into high- and low order bits: the highly-precise PCM56 is used for the high-order 16 bits and the low-order 2 bits have a discrete configuration for improved precision. The 18-bit D/A converter system effectively reproduces the 16-bit data by conversion to 18 bits.

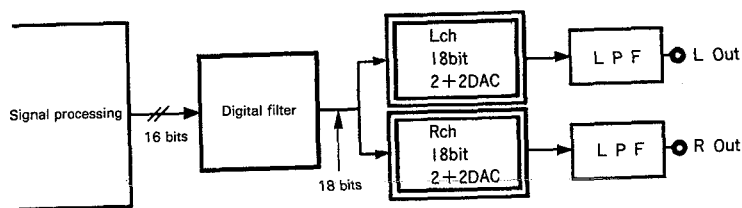


Figure 6

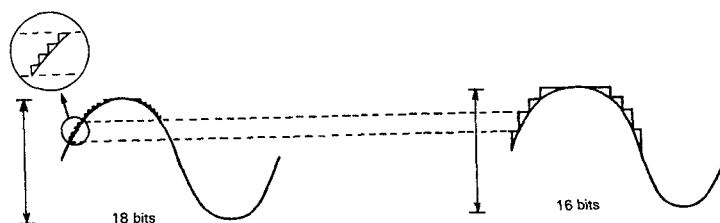


Figure 7

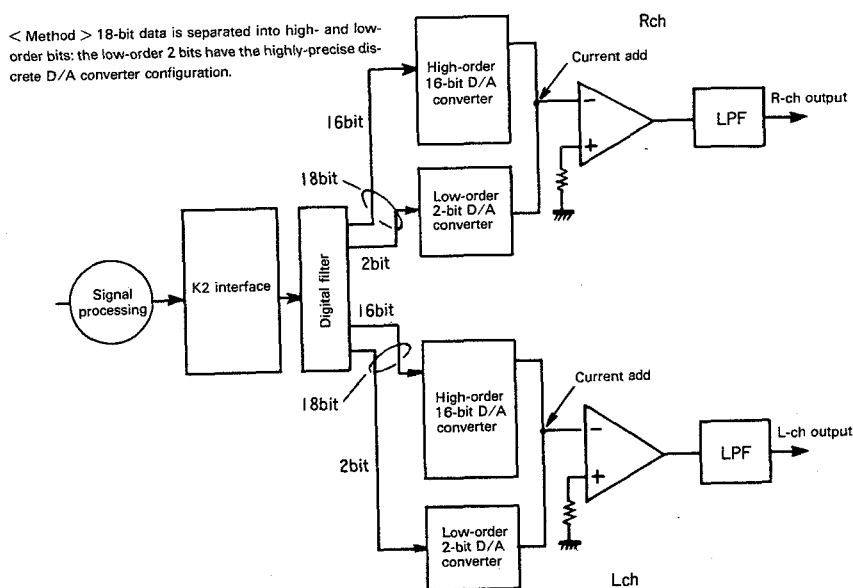


Figure 8. 2+2 full-time 18-bit D/A converter circuit for the XL-Z1010TN

Description of Major LSI ICs

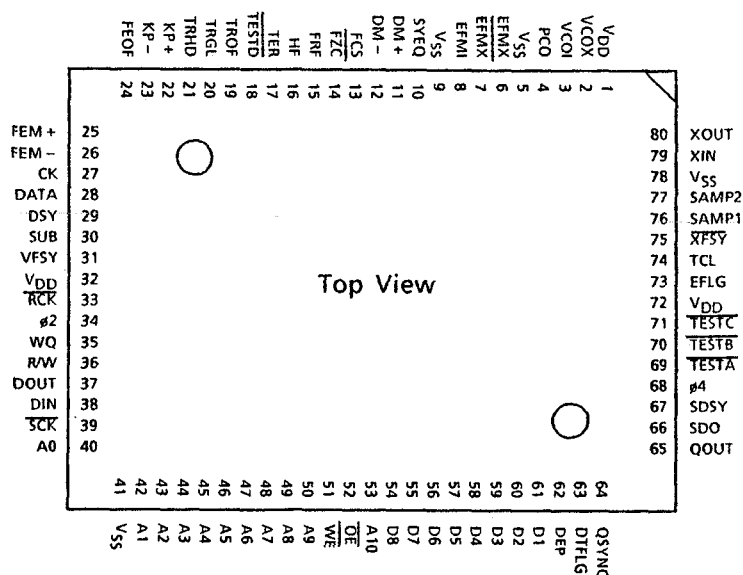
■IC401: YM3815H

(1) Outline

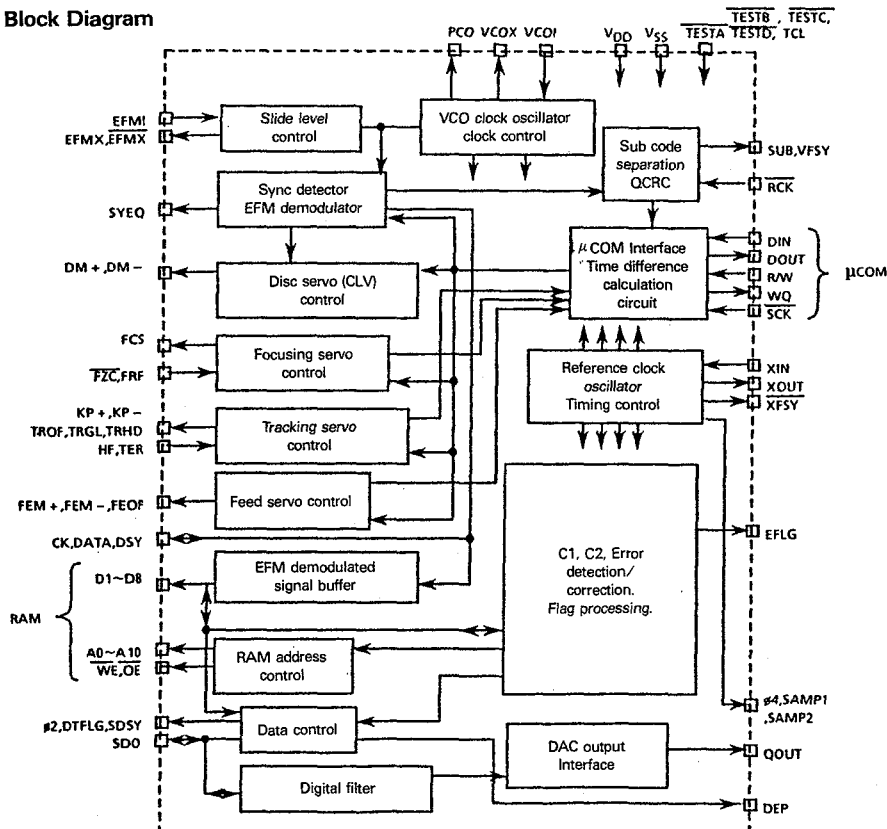
YM3815H is a C-MOS LSI for signal processing (SGP) and servo control (SVC) in a CD player. It is used for the demodulation of the EFM signal from the laser pickup, detection/cor-

rection of the error signal, signal processing in digital filtering, etc., and for various servo controls (focusing, tracking, spindle and feed servos).

(2) Terminal Layout



(3) Internal Block Diagram



(4) Pin Function Description

Pin No.	Name	I/O	Functions and Operations
1 32 72	V _{DD}	-	These are +5V power supply terminals.
2-3	VCOX VCOI	O I	A clock pulse (average: 8.6436MHz) is generated when an LC resonance circuit is connected to these terminals.
4	PCO	O	This terminal outputs the phase difference when the polarity of the clock and the EFM pattern changes; when the polarity becomes positive (+), the polarity of the variable-capacitance diode is set to that the frequency will rise, and clock regeneration is enabled.
5-9 41-78	V _{SS}	-	These are ground terminals.
6 7	EFMX EFMX	O O	These terminals are connected to the EFM signal slice level control circuit. Amplification-limited, mutually anti-phased signals are generated.
8	EFMI	I	The EFM signal (1~2 V _{p-p}) is input over this terminal.
10	SYEQ	O	This is the check output terminal; it becomes high when the synchronizing signal from the internal counter and the synchronizing signal detected from the EFM pattern coincide with one another.
11 12	DM+ DM-	O O	These terminals output the PMW for the spindle motor drive circuit. The spindle motor speeds up when DM+ is H, and slows down when DM- is H; both terminals cannot be H simultaneously.
13 14 15	FCS FZC FRF	O I I	These terminals output signals for controlling the focus servo. The FCS signal activates the focusing (drawing) operation; the FZC signal, generated when the focus point is achieved, terminate the focusing operation; and the FCS flag is dropped internally at the FRF signal generated when reflected light is detected.
16 17 19 20 21 22 23	HF TER TROF TRGL TRHD KP+ KP-	I I O O O O O	When tracks are being crossed during searches, the amplitude variation of the generated HF signal is sampled at the zero-cross point of the tracking error signal TER and the TROF signal is output. The level variations of this signal turn the servo on and off, greatly facilitating track acquisition. KP+ or KP- is output to conduct tracking, and TRHD is output during tracking to cause generation of the tracking error signal. The TRGL signal is for increasing the tracking gain after tracking is completed.
24 25 26	FEOF FEM+ FEM-	O O O	The FEM+ and FEM- high-speed feed signals are output over these terminals, as is the FEOF signal for cutting the feed servo. These terminals are all at the low level during normal PLAY operations.
27	CK	I/O	This is the check terminal. It has a 4.3218-MHz clock, produced by halving the frequency of the VCO.
28~29		I	Not used.
30 31 33	SUB VFSY RCK	O O I	VFSY is an output, synchronizing signal combining the frame and the sub-code frame (frame 98). Sub-codes P~W can be read out in bit serial form from the SUB output terminal if an eight-fold clock is applied to the RCK terminal when the VFSY's level change from H to L can be externally detected.
35	WQ	O	This terminal is connected to COM; it is for inputting the data transfer (SPC to COM) request signal.
36	R/W	I	This terminal is connected to COM; it is the output terminal for changing the data transfer mode: when L, data can be transferred from SPC to COM; when H, from COM to SPC.
37	DOUT	O	This terminal is the data output terminal connected to COM. When R/W is L, data is transferred from SPC to COM in synchronization with the SCK clock input.
38	DIN	I	This terminal is the data input terminal connected to COM. When R/W is H, data is transferred from COM to SPC in synchronization with the SCK clock input.
39	SCK	I	This terminal is connected to COM; it is an input terminal that carries the clock signal necessary for data transfers.
40 42~50 53	A0 A1~A9 A10	O	These are address output terminals and are connected to the RAM.
51	WE	O	This terminal is connected to the RAM; the RAM is set to the write mode when this terminal is L.
52	OE	O	This terminal is connected to the RAM; the RAM is set to the read mode when this terminal is L.
54~61	D8~D1	I/O	These are data I/O terminals and are connected to the RAM. They are in the data output state when WE is L, and in the data input state when WE is H.
62	DEP	O	This terminal carries the frequency characteristic control signal. De-emphasis is necessary when this terminal is H.
34 63 66 67	Ø2 DTFLG SDO SDSY	O O I/O O	Ø2 is a 2.1609-MHz crystal clock. SDO is for the serial output signals for the Ø2 bit rate D/A converter. The L channel has 24 bits and the R channel has 25 bits: They are sent least significant bit first and most significant bit last.
64~77			Not used.
79 80	XIN XOUT	I O	Oscillation is conducted when a crystal resonator (8.6436 MHz) is connected between these two terminals, and 10 pF capacitors are connected between each terminal GND.

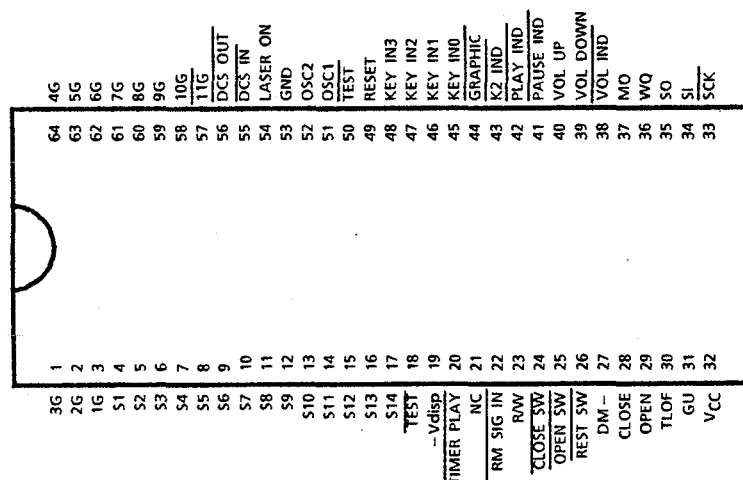
■HD614081SA26 (IC201)

(1) Outline

This LSI is a C-MOS 4-bit singlechip microcomputer.
It consists of a 4096-word × 10-bit ROM, a 256-digit × 4-bit, I/O ports, timer/counter and serial interface. Its

major functions are the acceptance of commands from switches and the output of commands to the FL display, LED display and servo control LSI, etc.

(2) Terminal Layout



(3) Pin Function Description

Terminal No.	Terminal name	I/O	Function	Terminal No.	Terminal name	I/O	Function
1~3	3G~1G	O	FL grid drive output.	35	SO	O	Outputs serial data to YM3815.
4~17	S1~S14	O	FL segment drive output.	36	WQ	I	Accepts write request from YM3815.
18	TEST	I	Test input	37	MO		Not used.
				38	VOL IND		
				39	VOLDOWN	O	Up/Down output of Remo-con volume.
				40	VOL UP	O	
19	-Vdisp		FL driving power supply.	41	PAUSE IND	O	Pause indicator output.
20	TIMER PLAY	I	L: Timer play mode H: Normal mode (This terminal is set at "H").	42	PLAY IND	O	Play indicator output.
21	NC		Not used.				
22	RM SIGN	I	Accepts remote control signal.	43	K2 IND	O	K2 indicator output.
23	R/W	O	Data transmission mode control output.	44	GRAPHIC	O	Muting output of subcode synchronous signal.
24	CLOSE SW	I	Close switch input	45~48	KEY IN 0~3	I	Key matrix input.
25	OPEN SW	I	Open switch input.	49	RESET IN	I	Reset input.
26	REST SW	I	Reset switch input.	50	TEST		Not used.
27	DM,—	I	Accepts spindle motor stopping signal.	51	OSC1	I	Clock oscillation input.
28	CLOSE	O	Tray close switch output.	52	OSC2	O	Clock oscillation output.
29	OPEN	O	Tray open switch output.	53	GND		Power terminal (OV)
30	TLOF	O	Tracking-off output.	54	LASER ON	O	Laser control output.
31	GU	O	Gain-up output.	55	DCS IN	I	Accepts compu-link signal.
32	Vcc		Power terminal (+5V)	56	DCS OUT	O	Outputs compu-link signal.
33	SCK	O	Clock output to YM3815.	57~64	11G~4G	O	FL grid drive output.
34	SI	I	Accepts serial data from YN3815.				

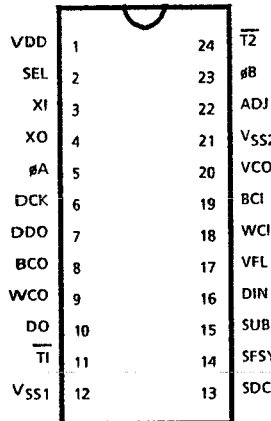
■YM3613B (IC150)

(1) Outline

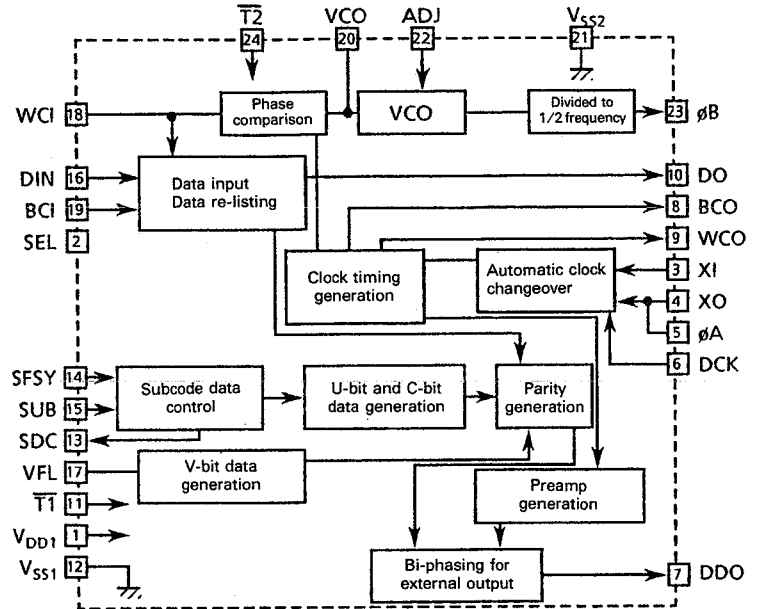
YM3613B is a signal processing LSI to output an digital sound signal from the CD player. The external digital signal output conforms to the EIAJ standard without using a spe-

cial extended circuit. The PLL circuit integrated into this LSI synchronizes the digital signal to the 44.1-kHz sampling frequency.

(2) Terminal Layout



(3) Internal Block Diagram



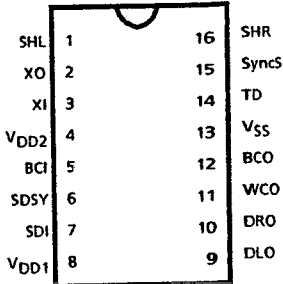
(4) Pin Function Description

Terminal No.	Terminal name	I/O	Function	Terminal No.	Terminal name	I/O	Function
1	VDD1		System power source (+5V)	13	SDC	O	Timing clock for reading subcode data. 8-bit clock output after SFSY enters L.
2	SEL	*I	Changes data input to DIN terminal from MSB first to LSB first. H: MSB first L: LSB first	14	SFSY	I	Shows that subcode data exists at SUB terminal and the first position of the sub-code data at trailing edge.
3	XI	I	Connecting (input) terminal of the crystal oscillator	15	SUB	*I	Subcode data input terminal. Serially accepts P to W, in that order.
4	XO	O	Connecting (output) terminal of the crystal oscillator	16	DIN	I	16-bit serial data input terminal
5	ØA	O	Crystal oscillating output terminal. (16.9344 MHz)	17	VFL	I	Shows the presence of an error in the sound data input from the DIN terminal.
6	DCK	*I	External clock input terminal. Automatically changed with the crystal clock. (5.6488 MHz)	18	WCI	I	Accepts the signal showing the L/R channel synchronized to the input sound data at the DIN terminal. H: L channel L: R channel
7	DDO	O	Outputs the bi-phase signal for external digital output.	19	BCI	I	Input sound data timing clock for the DIN terminal. Accepts sound data at the leading edge when the SEL terminal is H and at the trailing edge when it is L.
8	BCO	O	Timing clock for the DO terminal. Varies the trailing DO output data. (2.8224MHz)	20	VCO	I/O	Terminal for installing an internal VCO circuit capacitor.
9	WCO	O	Outputs the signal showing the L/R channel and synchronous to DO output. H: L channel L: R channel	21	Vss2		VCO grounding terminal. Grounded with VSS1, which is not connected to this terminal in the LSI.
10	DO	O	Serially outputs 16-bit sound data from MSB.	22	ADJ	I	Adjusts VCO oscillation frequency.
11	T1	*I	Adjusts VCO free-run. Generally, not connected. Set to L for adjustment.	23	ØB	O	VCO output clock. (8.643MHz)
12	VSS1		System grounding.	24	T2	*I	Internal check terminal. Not connected.

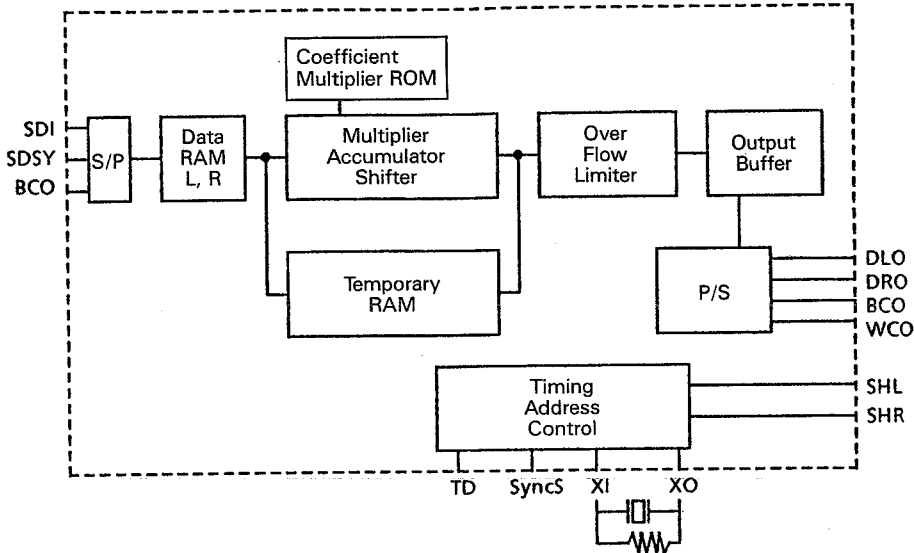
Terminals marked with an asterisk () are pulled up in the LSI.

■YM3414 (IC919): 8-Times Oversampling (18-Bit resolution) Digital Filter

(1) Terminal Layout



(2) Internal Block Diagram



(3) Pin Function Description

Terminal No.	Terminal name	I/O	Function
1	SHL	O	D/A converter 1 (TD=L): L-ch deglitcher signal (at four times) D/A converter 2 (TD=H): L/R-ch deglitcher signal (at eight times)
2	XO XI	O I	Performs crystal oscillation between XI and XO. 16.9344 MHz (can be input directly to XI).
4	VDD2	-	Crystal oscillation and deglitcher signal +5V power terminal.
5	BCI	I	Bit clock input terminal of input data.
6	SDSY	I	Clock showing the L/R-ch separation of input data and input timing.
7	SDI	I	Data input terminal.
8	VDD1	-	+5V power terminal of digital signal system.
9	DLO	O	D/A converter 1 (TD=L): L- and R-ch data output terminal (at four times) D/A converter 2 (TD=H): L-ch data output terminal (at eight times)
10	DRO	O	R-ch data output terminal.
11	WCO	O	Output data DLO and DRO word clocks.
12	BCO	O	Output data bit clock.
13	VSS	-	GND terminal.
14	TD	I	D/A converters 1-2 changeover terminal. D/A converter 1 (four times) =L. D/A converter 2 (eight times)=H.
15	SyncS	I	Synchronizing signal for absorbing asynchronous input jitter (SyncS = H: Complete synchronous input, SyncS = L: SDSY prohibited).
16	SHR	O	R-ch deglitcher signal at D/A converter 1.

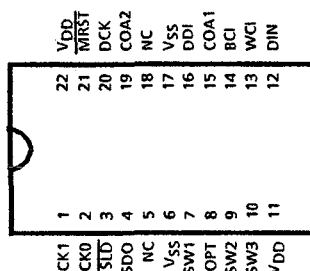
■VC4095-1 (IC910): Digital Signal Transmitting IC in K2 Interface

(1) Outline

This IC forms the K2 interface section and is used with VC4098 as a pair. It receives signals from YM3613B and

sends data signals to VC4098 via the photo coupler.

(2) Terminal Layout



(3) Pin Function Description

Terminal No.	Terminal name	I/O	Function	Remarks
1	CK1	I	Not used.	
2	CK0	I	5.6448MHz input.	K2
3	SLD	I	Serial data load timing signal.	
4	SDO	O	Serial data output signal.	
5	NC	-	—	
6	VSS	-	GND terminal.	
7	SW1	I	Not used.	
8	OPT	O		
9	SW2	I		
10	SW3	I		
11	VDD	-	+5V power terminal.	
12	DIN	I	Serial data input terminal.	from YM3613
13	WCI	I	Serial data word clock input.	
14	BCI	I	Serial data bit clock input.	
15	COA1	O	Not used.	
16	DDI	I		
17	VSS	-	GND terminal.	
18	NC	-	Not used.	
19	COA2	O		
20	DCK	O	5.6448 MHz output.	to YM3613
21	MRST	I	Master reset input.	
22	Vss	-	+5V power terminal.	

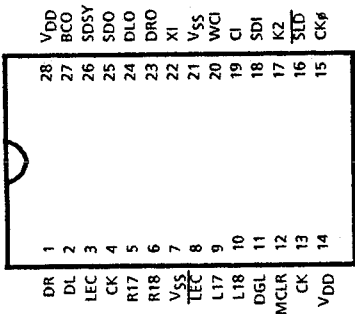
■VC4098 (IC918): Digital Signal Receiving IC in K2 interface

(1) Outline

This IC forms the K2 interface section and is used as a pair with VC4095-1. It receives the YM3414 clock signal and sends the synchronous signal for VC4095-1 via the photo

coupler. It detects the data signal sent by VC4095-1 and generates the digital signal based on the K2 operation.

(2) Terminal Layout

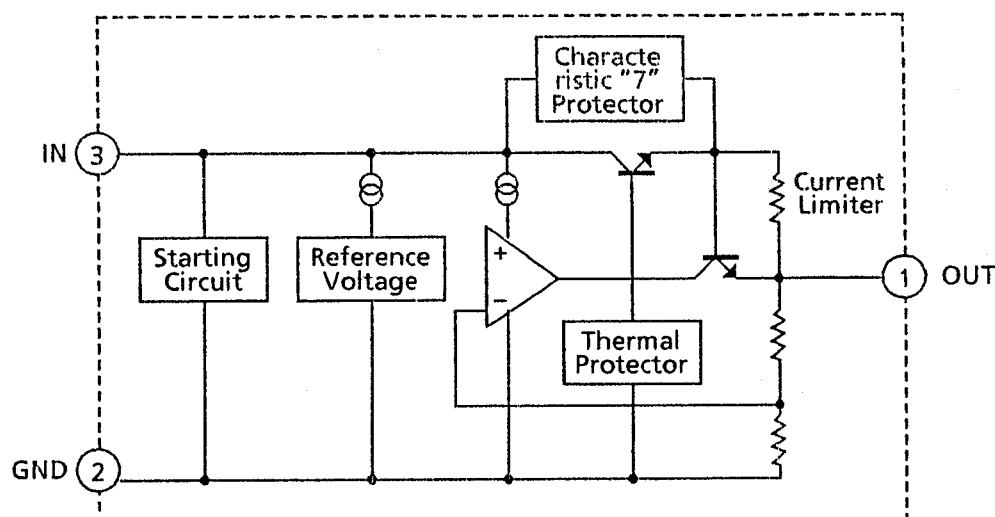


(3) Pin Function Description

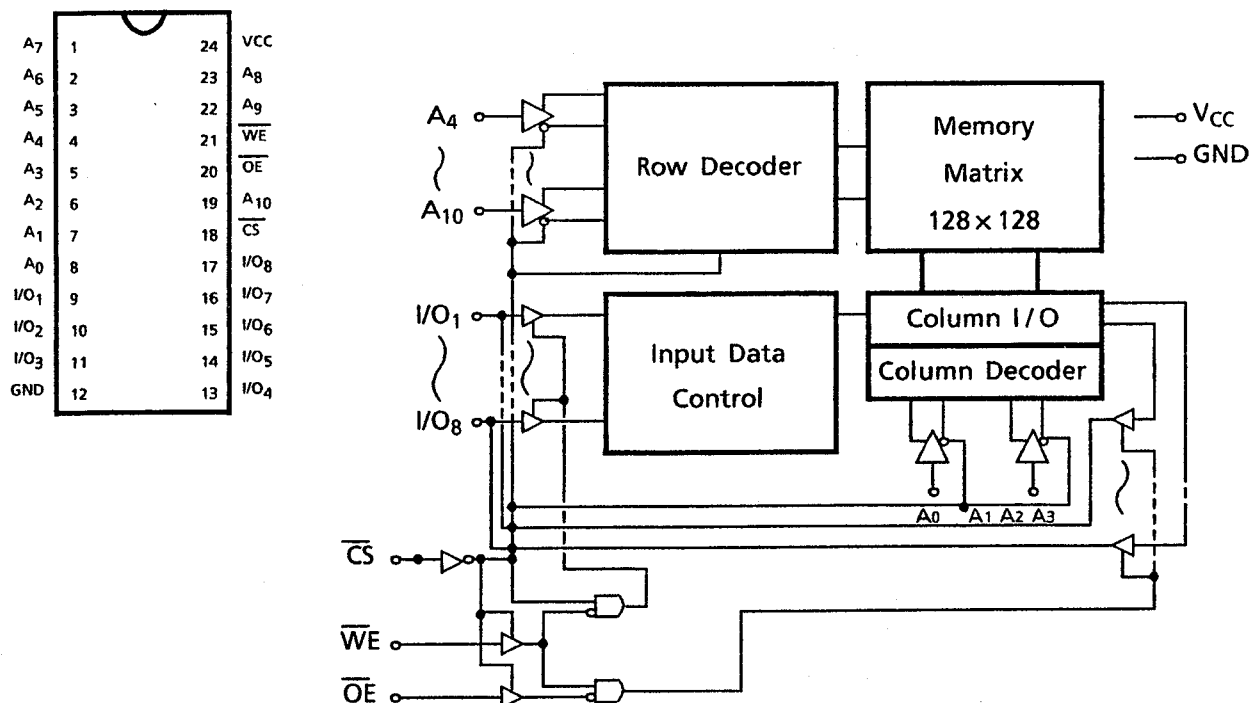
Terminal No.	Terminal name	I/O	Function	Remarks
1	DR	O	Outputs R-ch serial data.	
2	DL	O	Outputs L-ch serial data.	
3	LEC	O	Outputs latch enable control.	
4	CK	O	Outputs serial data synchronous clock.	
5	R17	O	Outputs R-ch 17-bit data.	
6	R18	O	Outputs R-ch 18-bit data.	
7	Vss	-	GND terminal	
8	LEC	O	LEC negative logic output.	
9	L17	O	Outputs L-ch 17-bit data.	
10	L18	O	Outputs L-ch 18-bit data.	
11	DGL	O	Outputs deglitcher timing signal.	
12	MCLR	I	Master clear terminal.	
13	CK1	O	Outputs one fourth of CK ϕ .	
14	Vdd	-	+5V power terminal.	
15	CK ϕ	O	5.6448MHz output.	K2
16	SLD	O	Serial data load timing signal.	
17	K2	O	Outputs K2 processing timing signal.	
18	SDI	I	Serial data input signal.	from YM3414
19	CI	I	Bit synchronous clock input during 8-times oversampling.	
20	WCI	I	Word clock input during 8-times oversampling.	
21	Vss	-	GND terminal.	
22	XI	I	Master clock (16.9344MHz) input.	from YM3414
23	DRO	I	R-ch data during 8-times oversampling	
24	DLO	I	L-ch data during 8-times oversampling	
25	SDO	O	Outputs serial data.	to YM3414
26	SDSY	O	Serial data synchronous signal.	
27	BCO	O	Serial data bit clock signal.	
28	Vss	-	+5V power signal.	

Internal Block Diagram of Other Major ICs

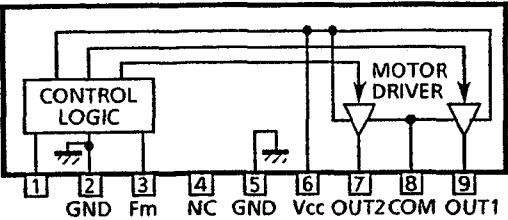
- NJM78M05FA (IC103, IC301): Three-terminal regulator (5V)
- NJM78L12 (IC101): Three-terminal regulator (+/- 12V)
- NJM79L12 (IC102):
- NJM78M06FA (IC308): Three-terminal regulator (+/- 6V)
- NJM79M06FA (IC309):



- LC3517BS-15 (IC403): Static RAM



■BA6218 (IC971): Motor drive IC

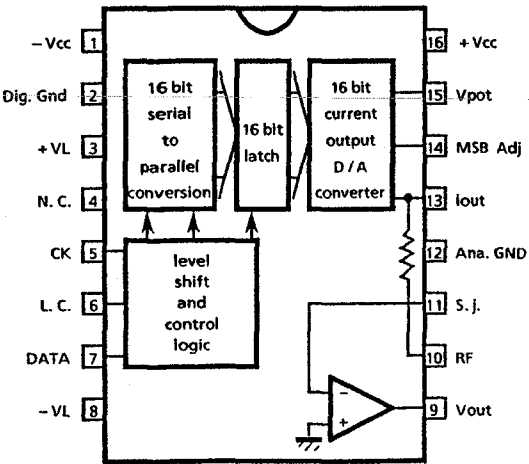


•Input truth table

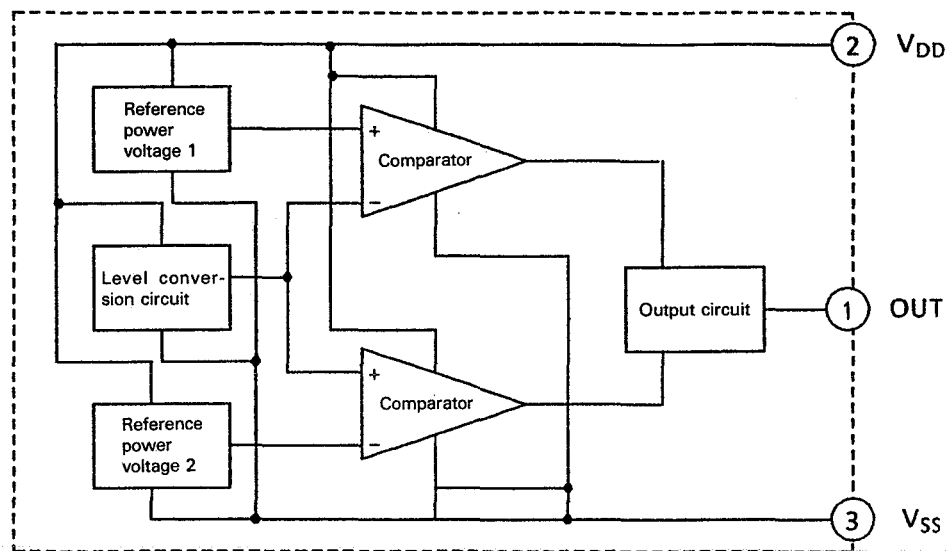
3 pin (IN)	1 pin (IN)	7 pin (OUT)	9 pin (OUT)
H	L	H	L
L	H	L	H
H	H	L	L
L	L	OPEN	OPEN

Note: Input level "H" is less than 2.0 V.
Input level "L" is less than 0.8 V.

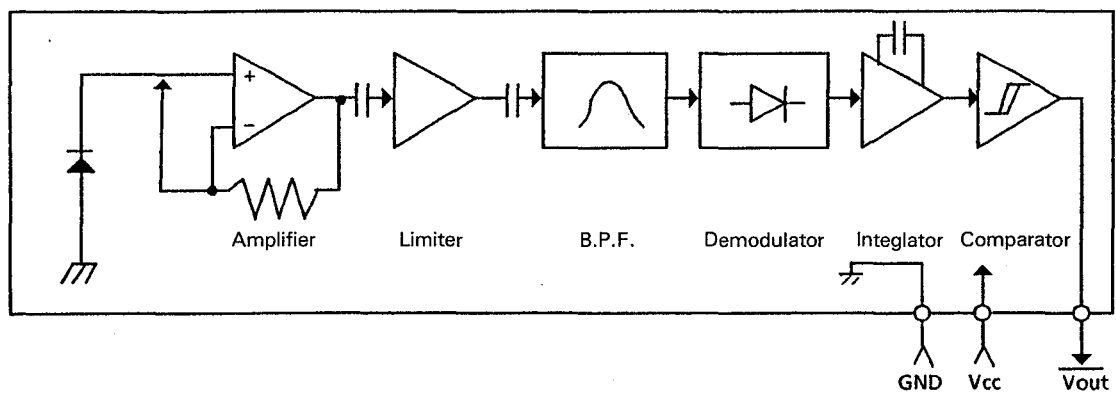
■PCM56P-J (IC303, IC304): D/A converter



■ MN1281 (IC202): Reset IC



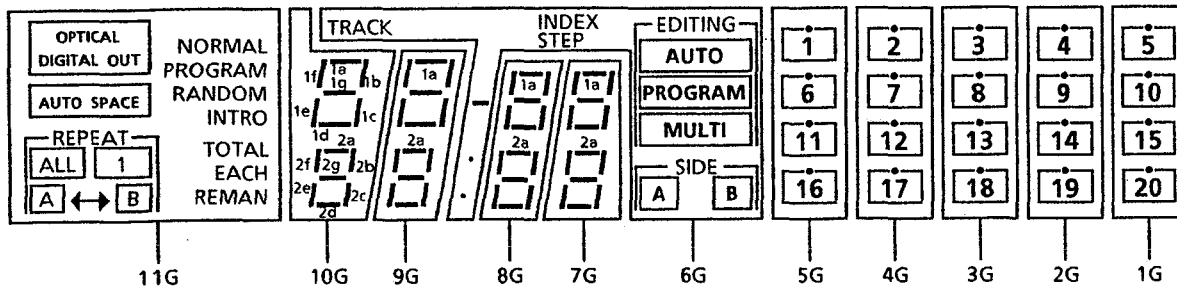
■ GP1U501X (IC203): Remote control receiving IC



FL Display Tube Connection

■FL201: ELU0001-075

1. Grid Layout



2. Pin Connection

PIN CONNECTION

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
CONNECTION	F	F	N	11	10	9	8	7	6	5	4	3	2	1	S	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
	1	1	P	G	G	G	G	G	G	G	G	G	G	G	1	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	

PIN NO.	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
CONNECTION	N	N	N	N	N	N	N	N	S	S	S	S	S	S	S	S	S	S	S	S	S	N	F	F
	P	P	P	P	P	P	P	P	2	3	4	5	6	7	8	9	10	11	12	13	14	P	2	2

Note: F: Filament, S: Segment, G: Grid, NP: No pin

3. Anode Connection Table

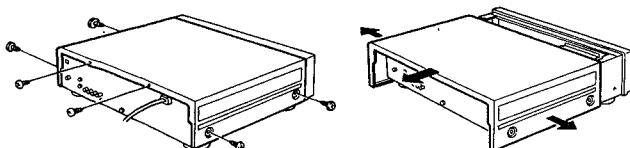
	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
S1	OPTICAL DIGITAL OUT	1a	1a	1a	1a	—	—	—	—	—	—
S2	AUTO SPACE	1b	1b	1b	1b	—	—	—	—	—	—
S3	REPEAT	1f	1f	1f	1f	TRACK	• (1)	• (2)	• (3)	• (4)	• (5)
S4	ALL	1g	1g	1g	1g	• —	□ (1)	□ (2)	□ (3)	□ (4)	□ (5)
S5	1	1c	1c	1c	1c	INDEX	1	2	3	4	5
S6	A ↔ B	1e	1e	1e	1e	STEP	• (6)	• (7)	• (8)	• (9)	• (10)
S7	B	1d	1d	1d	1d	EDITING AUTO PROGRAM MULTI	□ (6)	□ (7)	□ (8)	□ (9)	□ (10)
S8	NORMAL	2a	2a	2a	2a	(AUTO)	6	7	8	9	10
S9	PROGRAM	2b	2b	2b	2b	(PROGRAM)	• (11)	• (12)	• (13)	• (14)	• (15)
S10	RANDOM	2f	2f	2f	2f	(MULTI)	□ (11)	□ (12)	□ (13)	□ (14)	□ (15)
S11	INTRO	2g	2g	2g	2g	(A)	11	12	13	14	15
S12	TOTAL	2c	2c	2c	2c	(B)	• (16)	• (17)	• (18)	• (19)	• (20)
S13	EACH	2e	2e	2e	2e	—	□ (16)	□ (17)	□ (18)	□ (19)	□ (20)
S14	REMAIN	2d	2d	2d	2d	—	16	17	18	19	20

Disassembly Procedures

Note: Check that no disc is on the tray before starting disassembly.

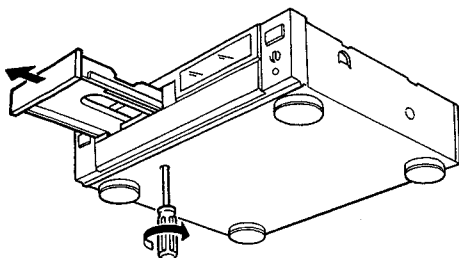
(1) Top cover removal

1. Remove 2 screws each from both sides and the rear.
2. Lift up the back of the top cover and remove by pulling up-ward and to the rear.

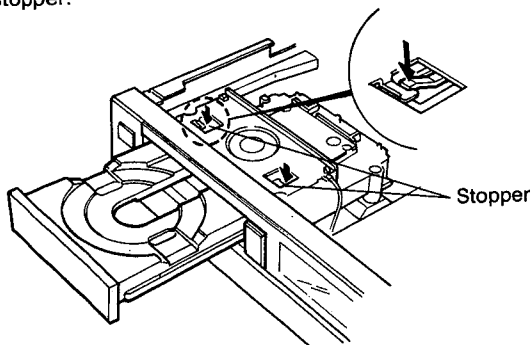


(2) Tray assembly removal

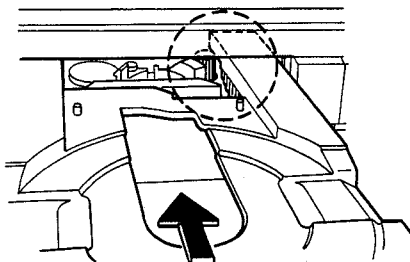
1. Remove the top cover.
2. Insert a Phillips screwdriver into the hole at the bottom of the side of the front panel, and turn in the direction of the arrow to remove the tray assembly.



3. Remove the tray by pulling forward while pressing the tray stopper.

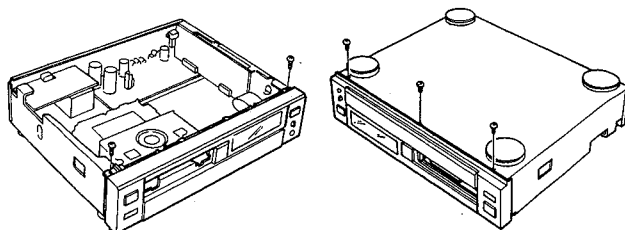


Note: To reinstall the tray assembly, properly match the tray assembly rack and gear.

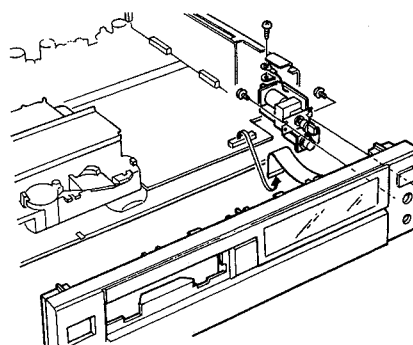


(3) Front panel assembly removal

1. Remove the tray assembly.
2. Remove the five screws fixing the front panel assembly.

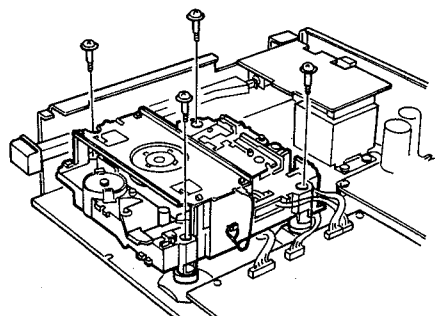


3. Remove the front panel assembly.
4. Remove the connector (P201) on the main PC board.
5. Remove the two screws fixing the VR PC board assembly to the front panel assembly.
6. Remove the VR PC board assembly from the front panel assembly.

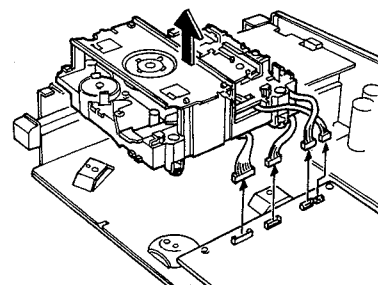


(4) Mechanism assembly removal

1. Remove the front panel cover.
2. Remove the 4 screws fastening the mechanism assembly.

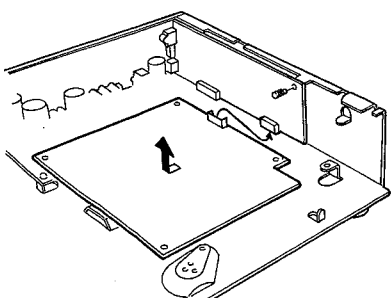


3. Remove the four connectors (P502, P803, P110, P501) on the main PC board.
4. Remove the mechanism assembly.



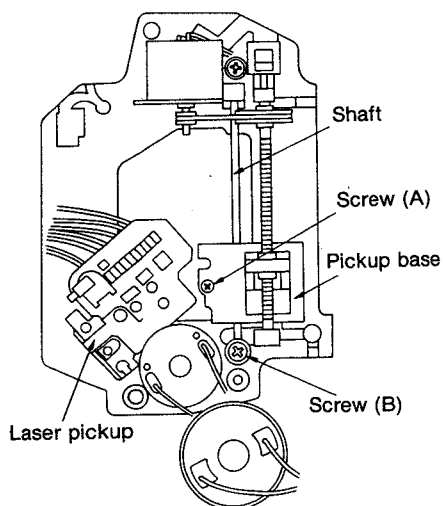
(5) Main PCB removal

1. Remove eight screws fixing the rear panel, and remove the rear panel.
2. Remove one plastic ribet and disconnect two connectors (J910 and J911). Then, remove the interface board K2.
3. Loosing four screws, remove the main PCB.



(6) Laser pickup removal

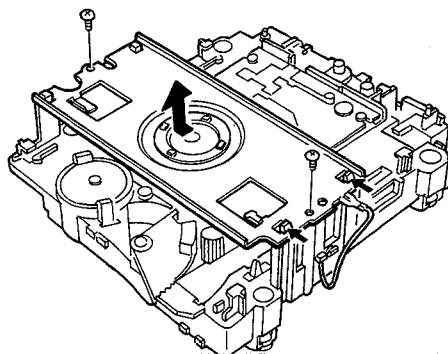
1. Remove the top cover and tray assembly and mechanism assembly.
2. Turn the mechanism assembly upside down and put aside.
3. Remove the screw (A) fixing the pickup base.
4. While holding up the left side of the pickup base, move the pickup and remove the pickup base.
5. Remove screw (B) fastening the shaft.
6. Remove the laser pickup from the shaft.



Note: Do not allow any grease to get on the motor pulley rubber belt during the above operations. Remove any grease using a soft cloth containing alcohol.

(7) Spindle motor removal

1. Remove the two screws and claws fixing the disc clumper.
2. Remove the disc clumper.
3. Remove the turntable fixed to the spindle motor shaft.
4. Remove the two screws fixing the spindle motor to the mechanism base.
5. Remove the spindle motor.

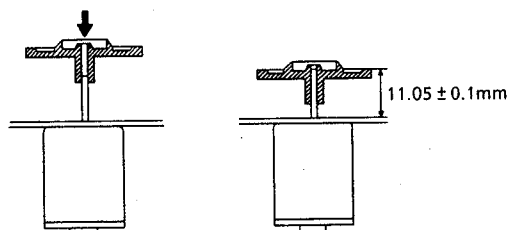


(8) Spindle motor installation

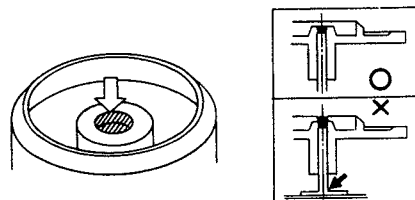
1. Install the spindle motor in the mechanism base and fix it by tightening the two screws.

Note: Tighten the two screws to the same torque using a torque screwdriver.

2. Press the turntable straight down onto the motor shaft until the distance from the mechanism base to the top of the turntable is exactly $11.05 \pm 0.1\text{mm}$.



3. Apply a very small amount of adhesive to the detent in the center of the turntable to lock the turntable and motor shaft.

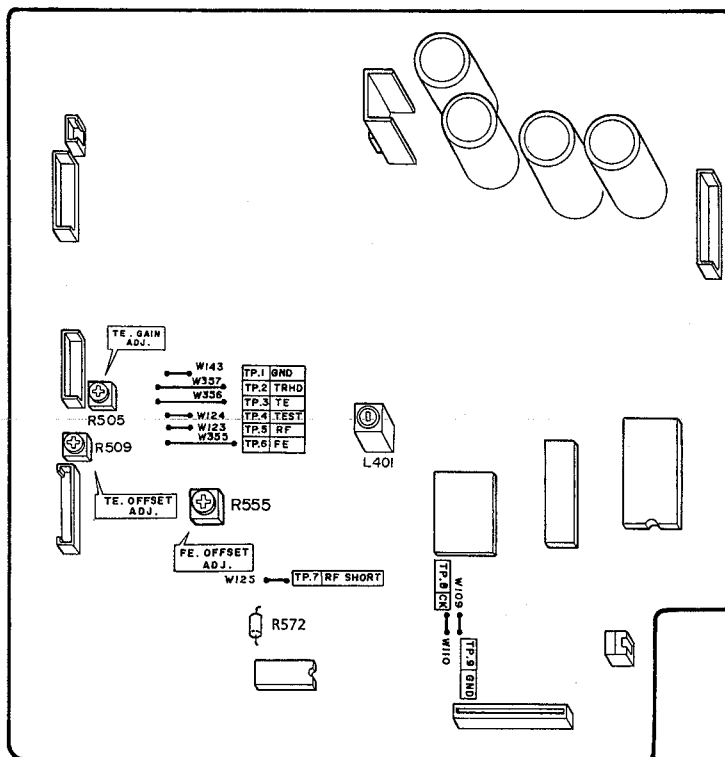


Note: Use Loctite 460 adhesive.

— Use special care to prevent adhesive from sticking to the motor bearing section and prevent adhesive accumulation on the top of the turntable.

Adjustment Procedures

■ Main Circuit Board (ENN-169-1) Adjustment



(1) PLL free-run adjustment

Note: Perform this adjustment immediately after turning on the power.

1) Adjustment apparatus

Frequency counter

2) Adjustment procedure

1. Connect the frequency counter between TP8 (CK) (W110) and TP1 GND (W143) on the main PCB.
2. Short between TP7 (RF short) (W128) and TP9 (GND) (W129).
3. Use the adjustment rod and adjust L401 so that the frequency counter indicates $4.320 \pm 0.002\text{MHz}$.

(2) Focus offset adjustment

1) Adjustment apparatus

Oscilloscope, normal disc

2) Adjustment procedure

1. Connect the oscilloscope between TP5 (RF) (W123) and TP1 (GND) (W143) on the main PCB.
2. Play the disc.
3. Adjust R555 so that the waveform is at its clearest with the RF signal (waveform on the oscilloscope) amplitude is maximum.

(3) Tracking gain adjustment

1) Adjustment apparatus

Oscilloscope, normal disc

2) Adjustment procedure

1. Connect the oscilloscope between TP3 (TE) (W356) and TP1 (GND) (W143) on the main PCB.
2. Play the disc.
3. Short between TP4 (TEST) (W124) and TP1 (GND) (W143).
4. Adjust R505 so that the tracking error signal (waveform on the oscilloscope) is 2.0Vp-p .

(4) Tracking offset adjustment

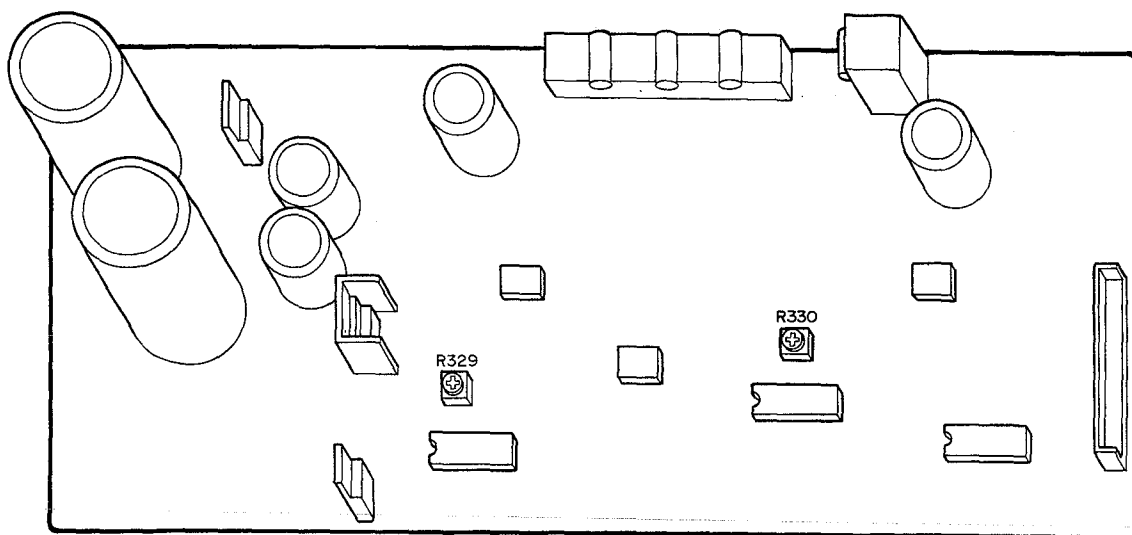
1) Adjustment apparatus

Oscilloscope, normal disc.

2) Adjustment procedure

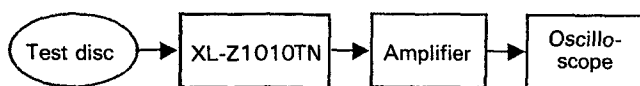
1. Connect the oscilloscope between TP3 (TE) (W356) and TP1 (GND) (W143) on the main PCB.
2. Play the disc.
3. Short between TP4 (TEST) (W124) and TP1 (GND) (W143).
4. Adjust R509 so that the tracking error signal (waveform on the oscilloscope) DC level is 0.

■Audio Circuit Board (ENN-170-1) Adjustment

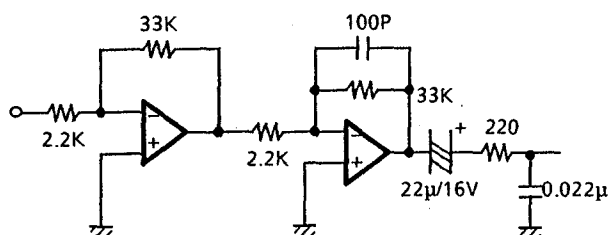


1. MSB (Zero-cross distortion) Adjustment

1) Configuration:



*The amplifier can be replaced by a level meter.



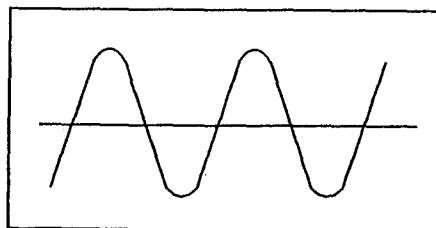
Recommended amplifier circuit (about 47 dB)

*Use the NJM4560DX or M5220 operation amplifier.

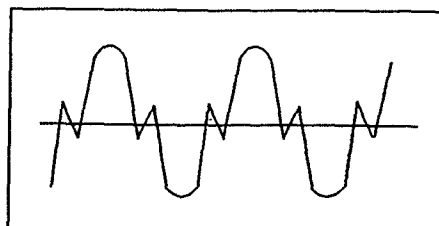
2) Adjustment procedures

- (1) Reproduce 1 kHz, -60 dB of the test disc (ninth selection of CRG11069.)
- (2) Adjust R329 for L-ch and R330 for R-ch so that the reproduced waveform will be a proper sine wave (see below).

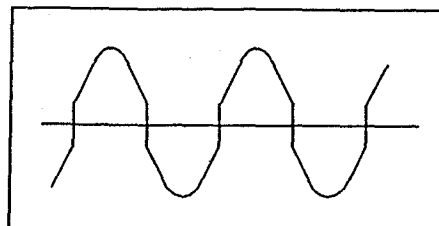
•Zero-cross distortion waveform



OK



NG



NG

Maintenance of Laser Pickup

1) Laser Diode Service Life

• When measured using the laser power meter:

- (1) Extract the corner card from the socket (P201) on the main PC board.
- (2) Connect the C610 terminal (L. ON) on the connector side to the C608 terminal (+5V line) on the connector side.
- (3) Turn the power on and measure the pickup laser power.

• When the laser power meter is not available:

- (1) Turn the power on and place a disc on the tray.
- (2) Push the PLAY button to reproduce the music.
- (3) Connect the oscilloscope to TP5 RF (W123) and TP1 GND (W143) and measure the EFM output.

- When the measured value is within the values listed in the following table, the service life of the laser diode is near the end. Replace the pickup according to the pickup replacement procedures on the next page.

Item	Measuring instrument	Measured value
Laser power	Laser power meter	0.1mW or less
EFM output (eye pattern waveform ariation)	ocilloscope	1.5V or less

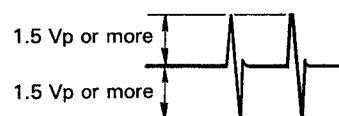
2) Semi-Fixed Resistance on the APC PC Board

The semi-fixed resistance on the APC PC board installed in the pickup is used to adjust the laser power. Never touch this resistance because its adjustment operation is paired according to the characteristics of the optical block. If the laser power is low, the service life of the laser diode is near the end, requiring the pickup to be replaced. Rotating the semi-fixed resistance of a normal pickup might damage the pickup due to overcurrent.

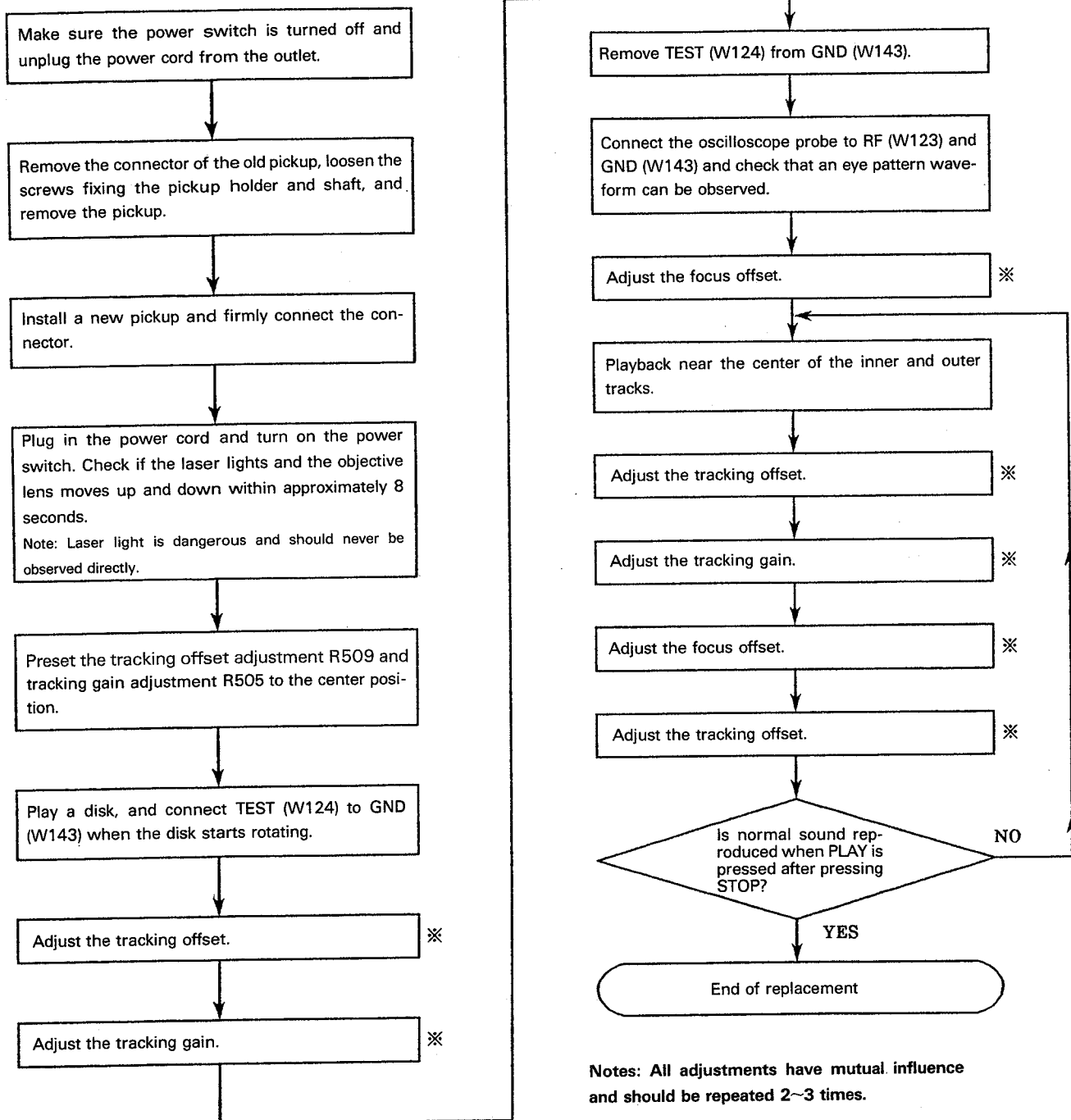
3) Age Deterioration of Optical System

•How to judge the optical system

- (1) Connect the oscilloscope to TP6 FE (W355) and TP1 GND (W143).
- (2) Short R572 using a shorting pin.
- (3) Turn the power on and check that the FE output is $\pm 1.5\text{Vp}$ or more (set 0.5 sec during the oscilloscope time setting). If the output is $\pm 1.5\text{Vp}$ or less, the optical system is defective.



Pickup Replacement Procedures



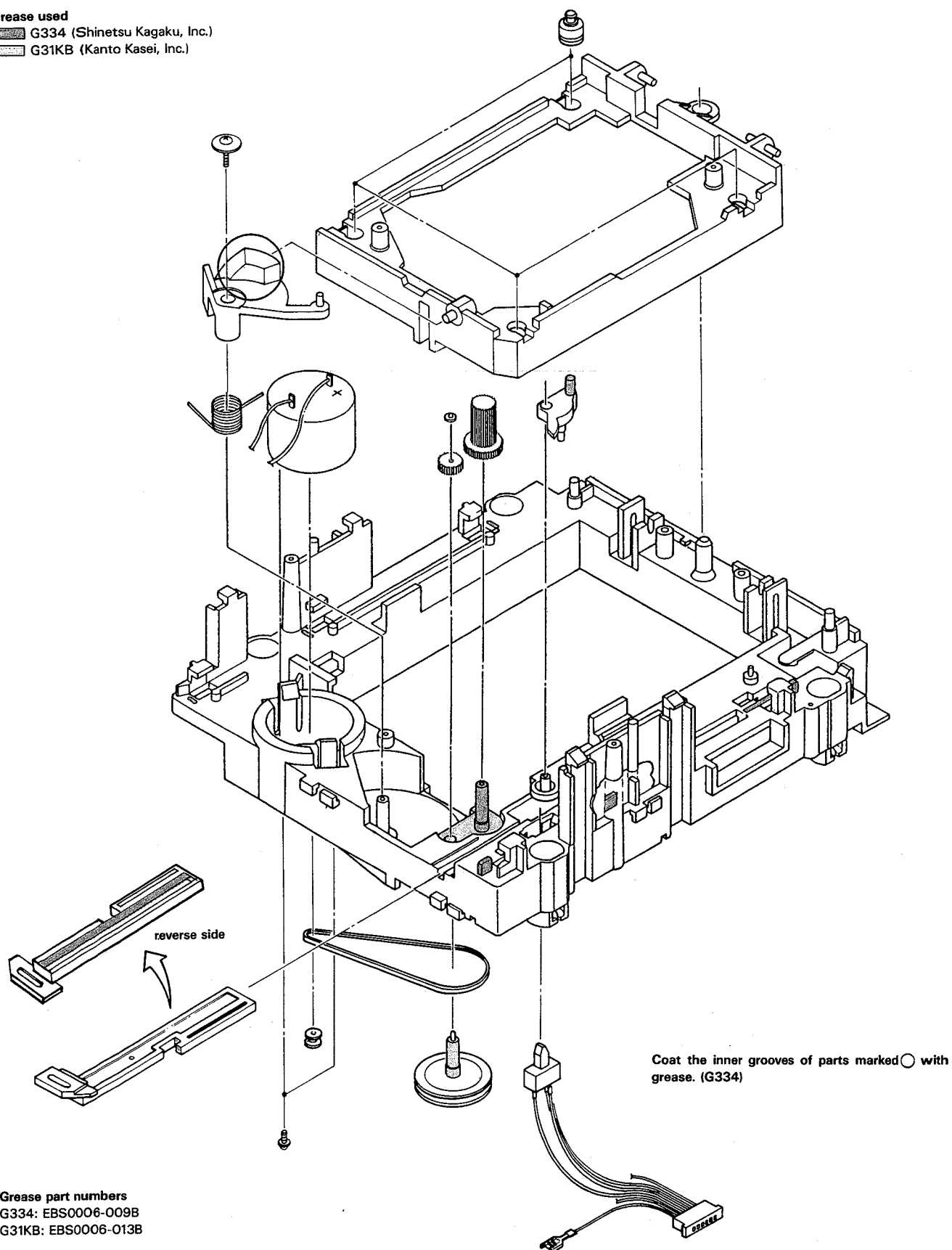
※See the section for each adjusting method.

Application Points for Grease

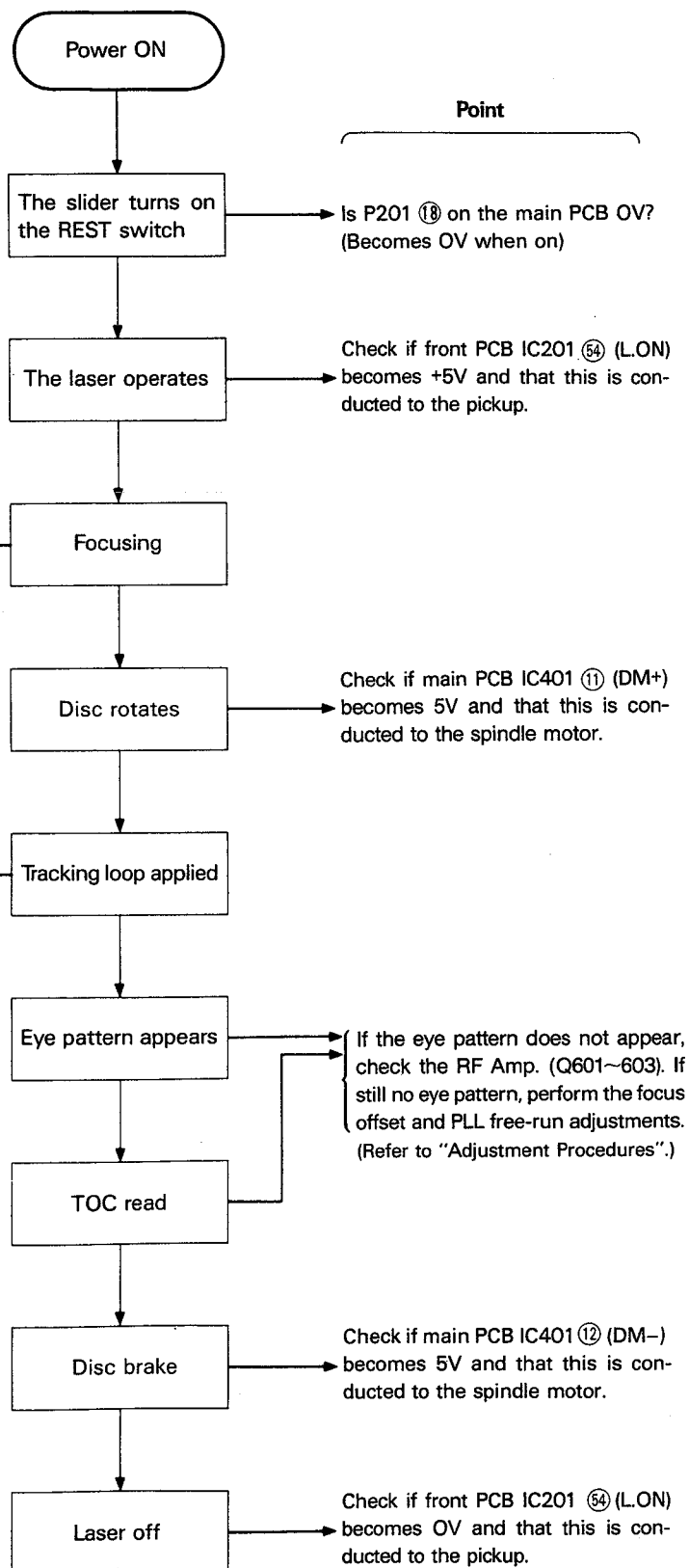
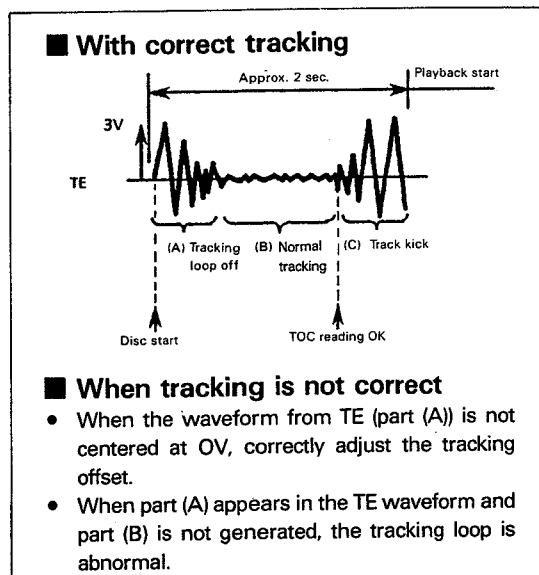
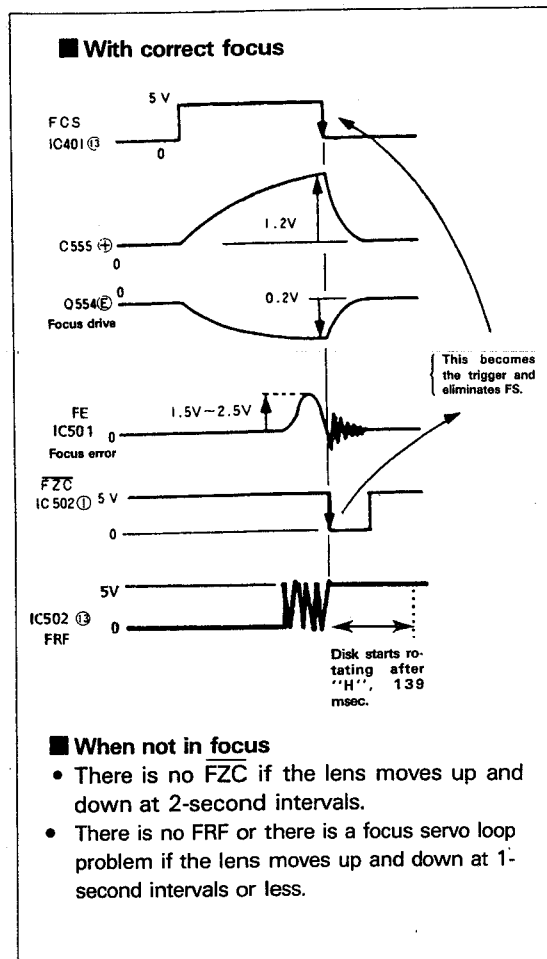
Grease used

■ G334 (Shinetsu Kagaku, Inc.)

■ G31KB (Kanto Kasei, Inc.)

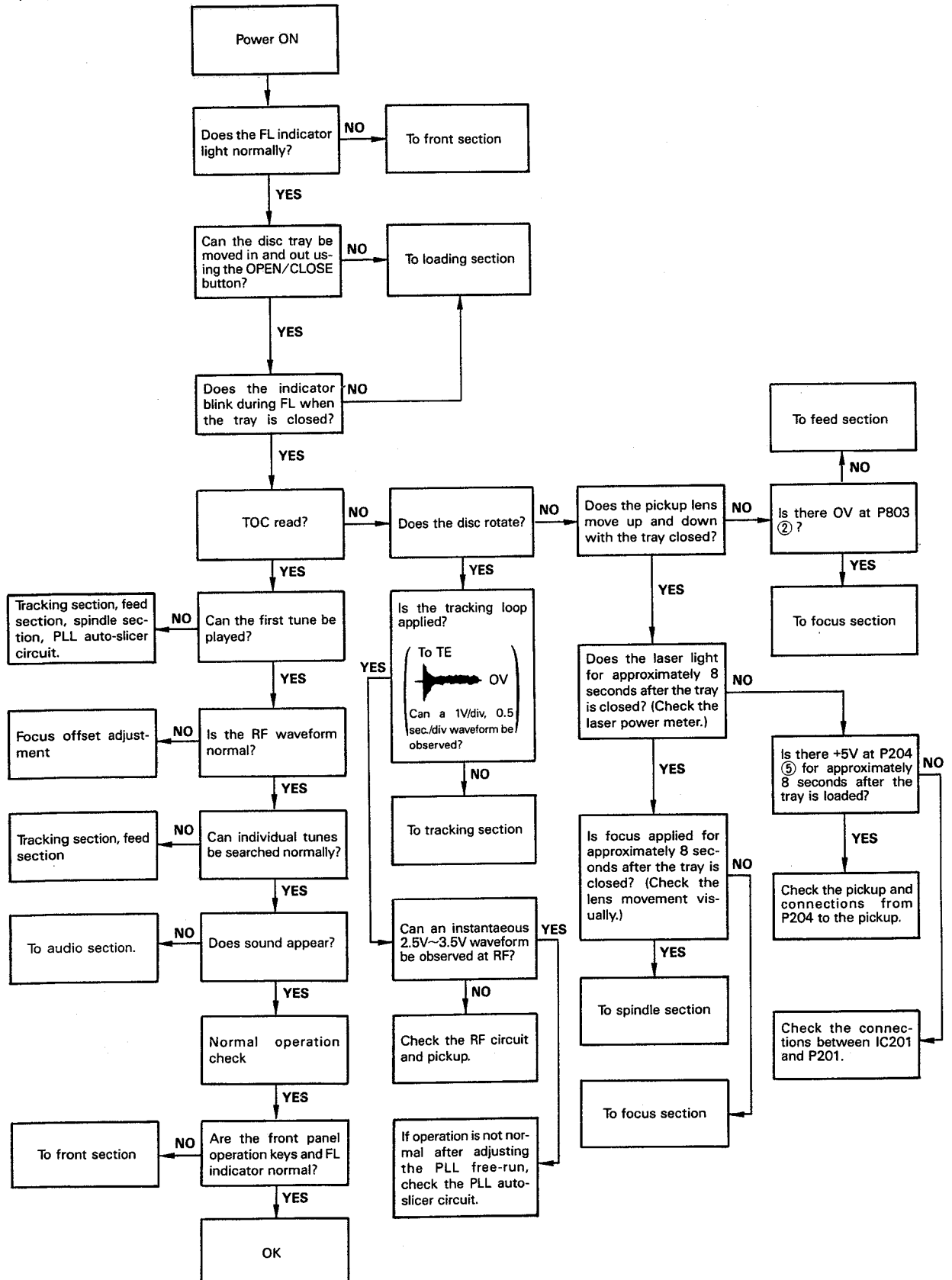


Flow of Operation Until TOC is Read

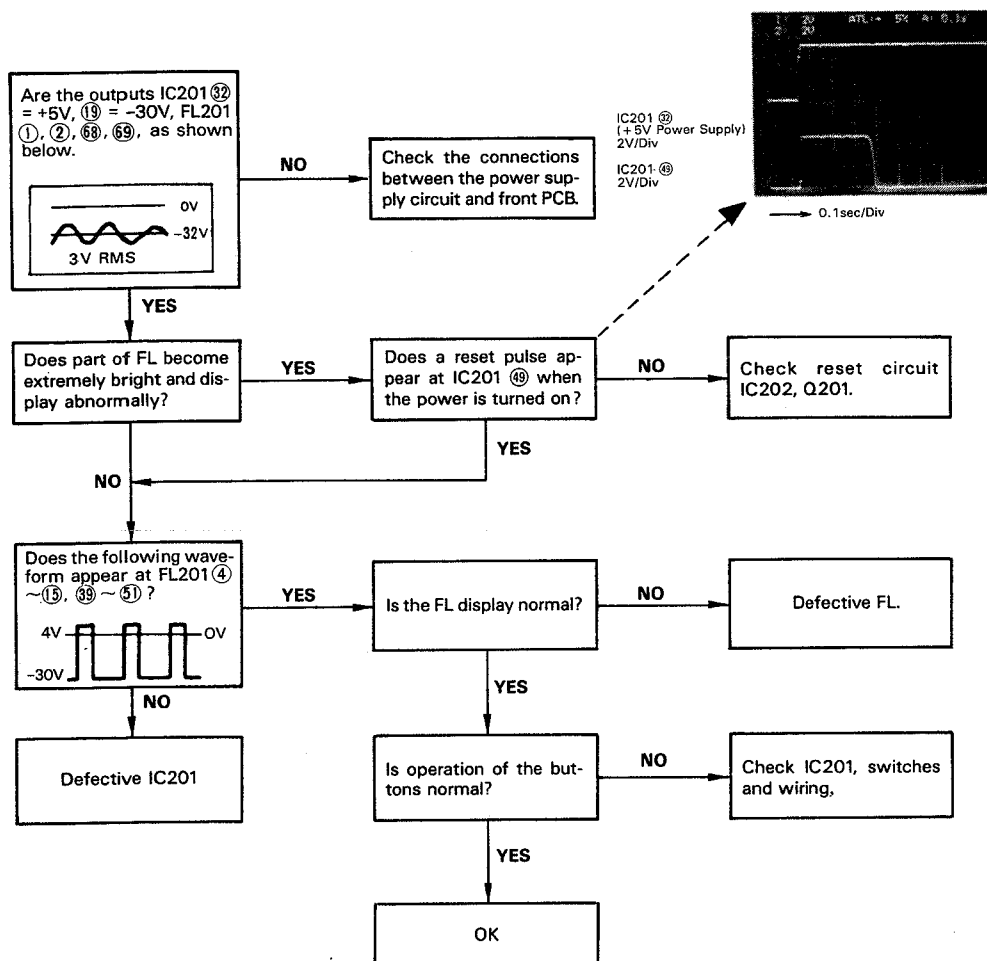


Troubleshooting

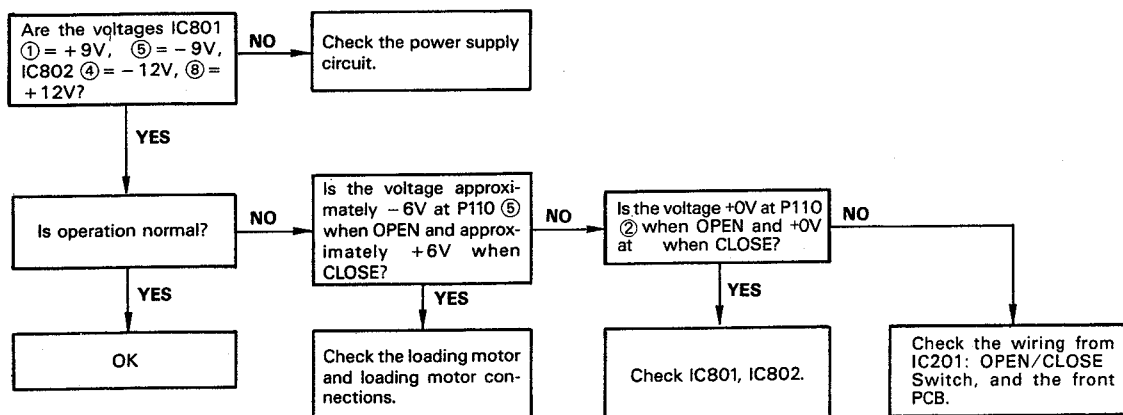
The following shows the status of the various circuits from turning on the power to the start of disc play.



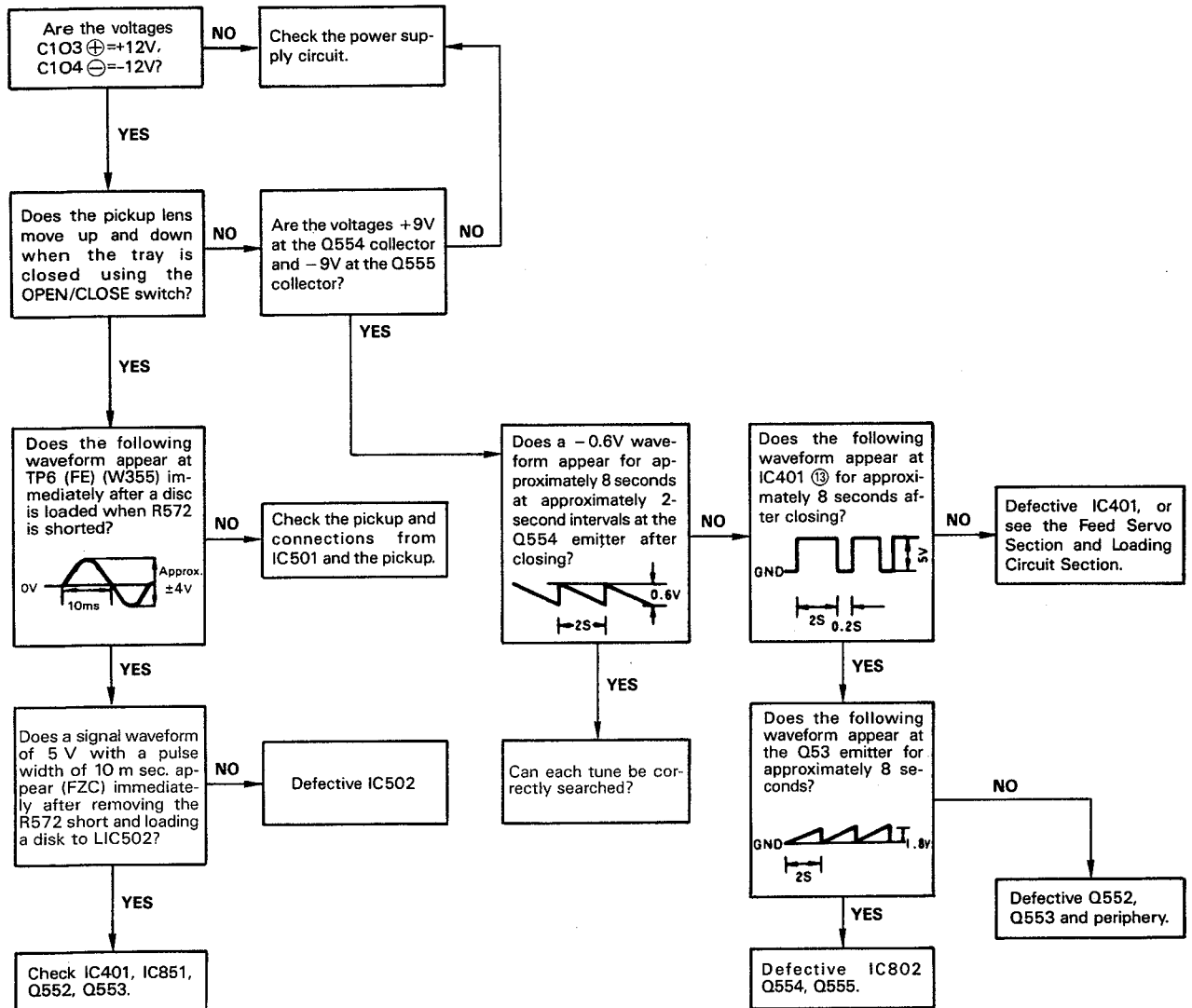
Front Circuit Section



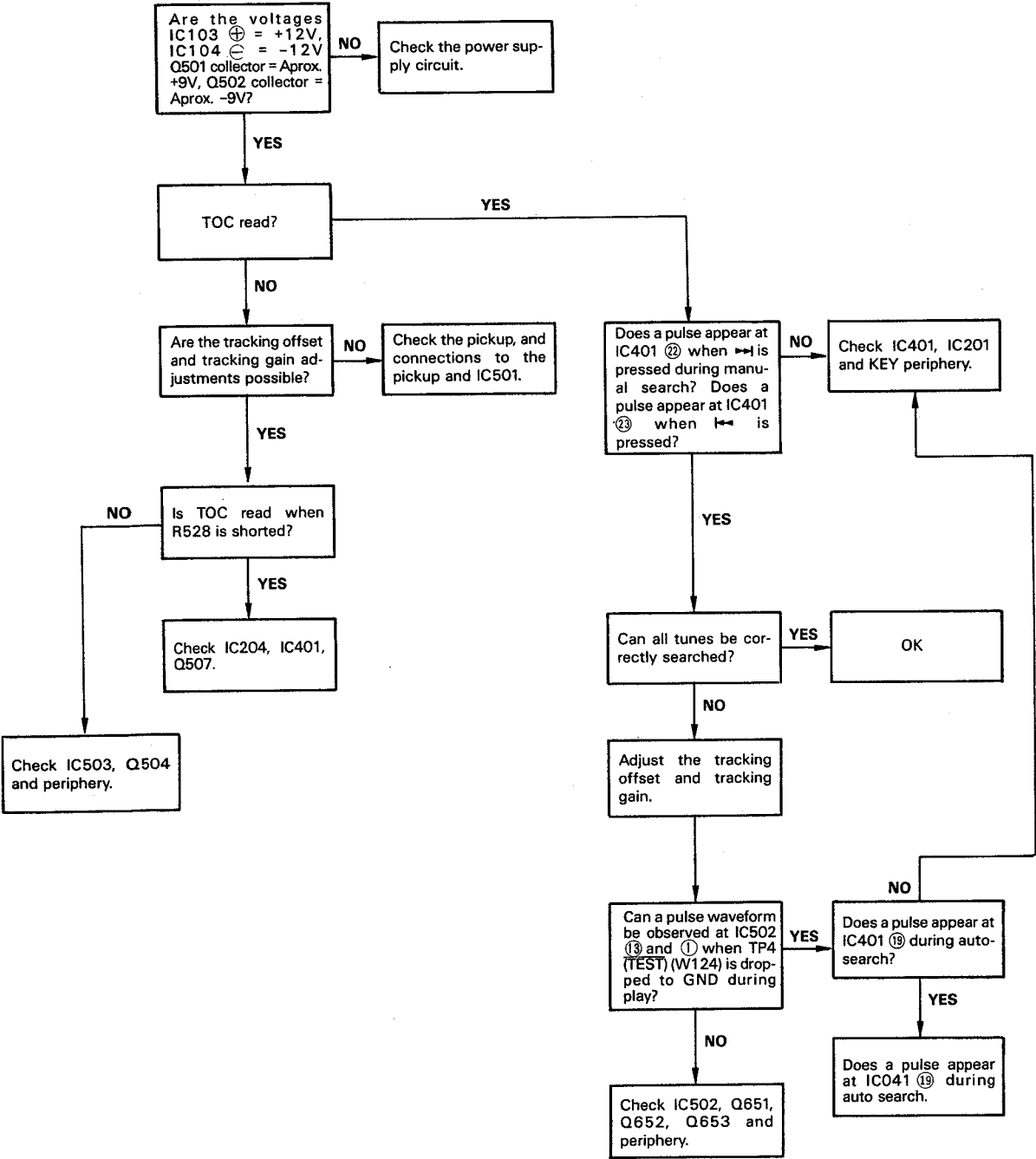
Loading Section



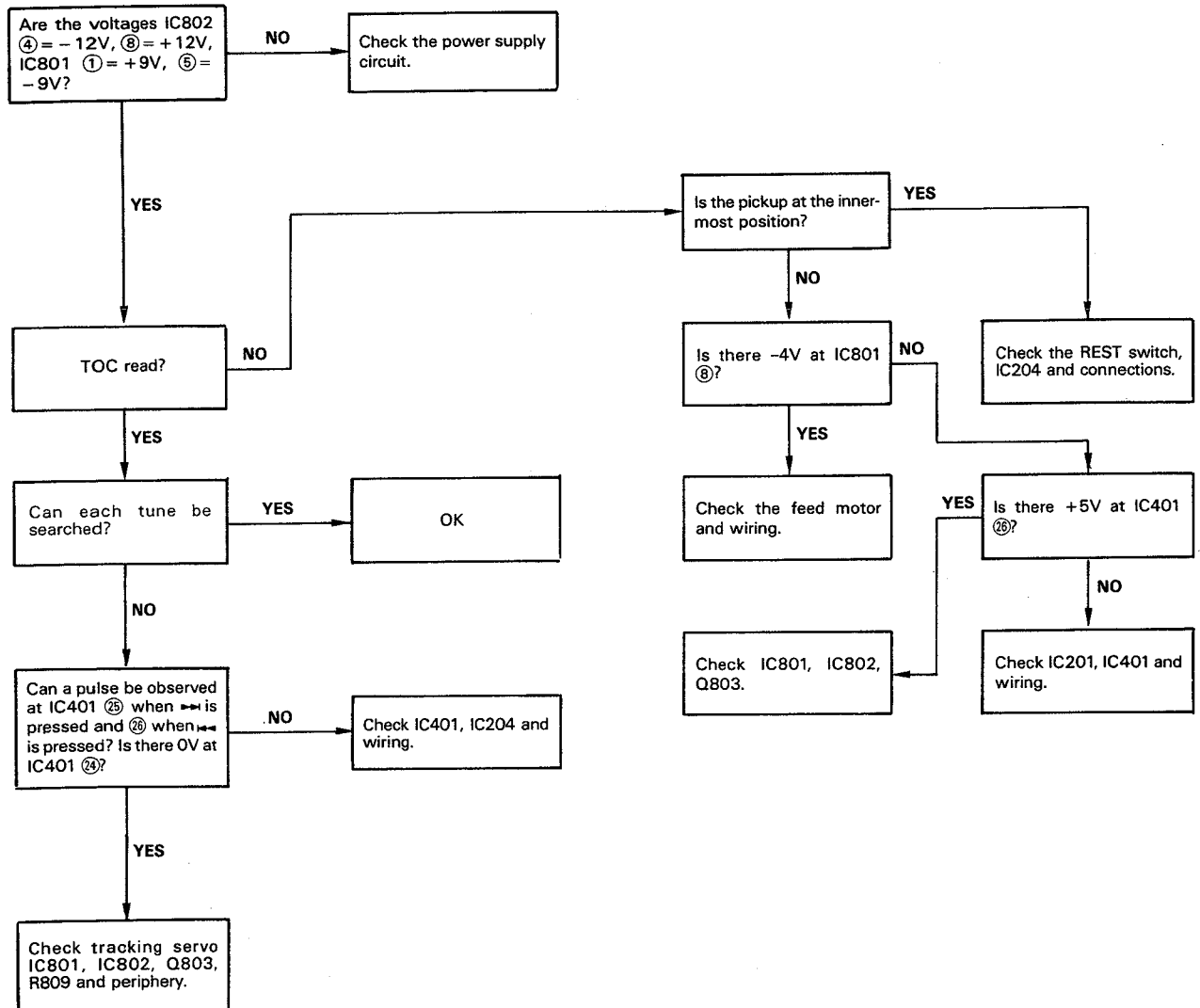
Focus Servo Section



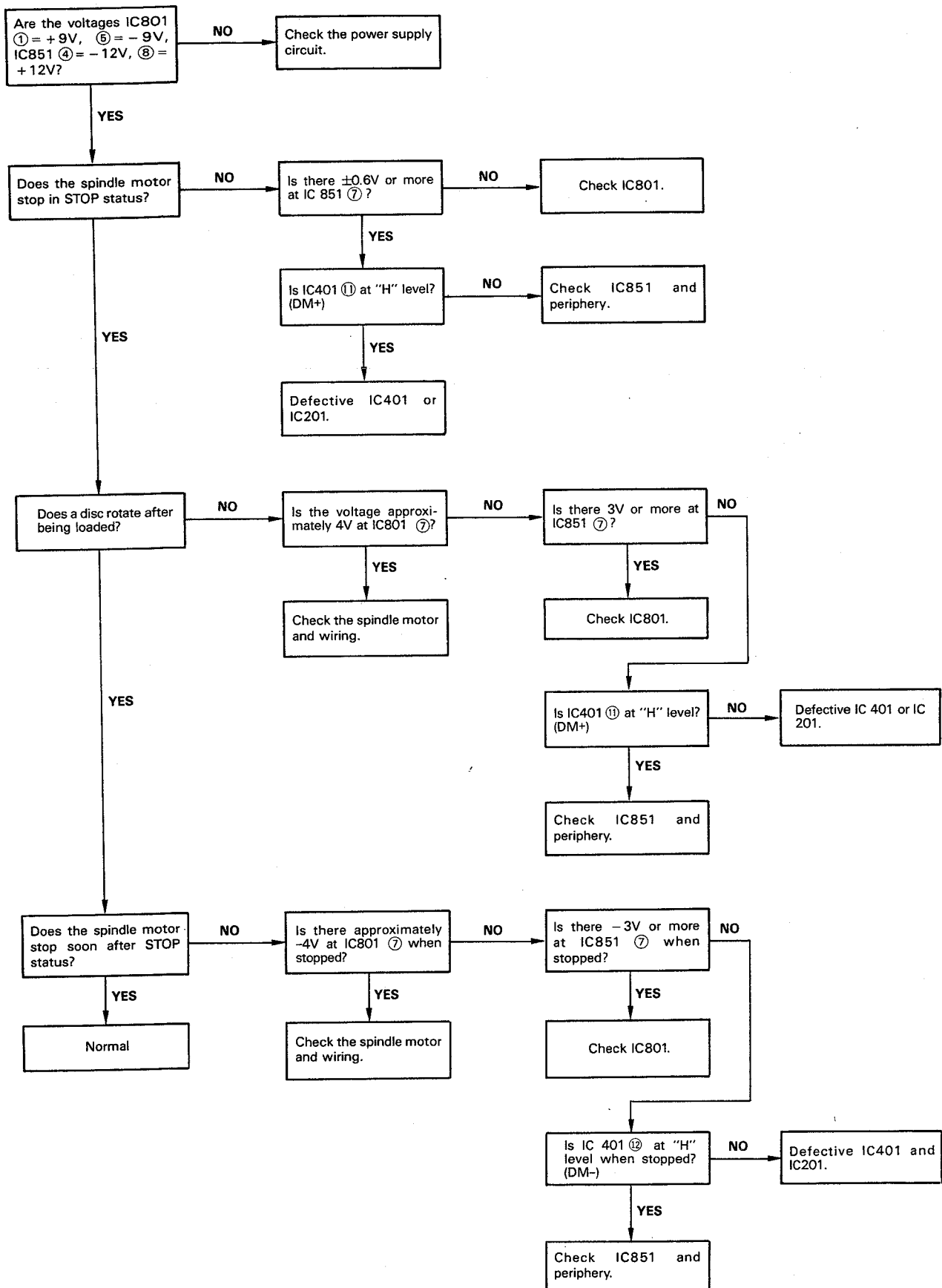
Tracking Servo Section



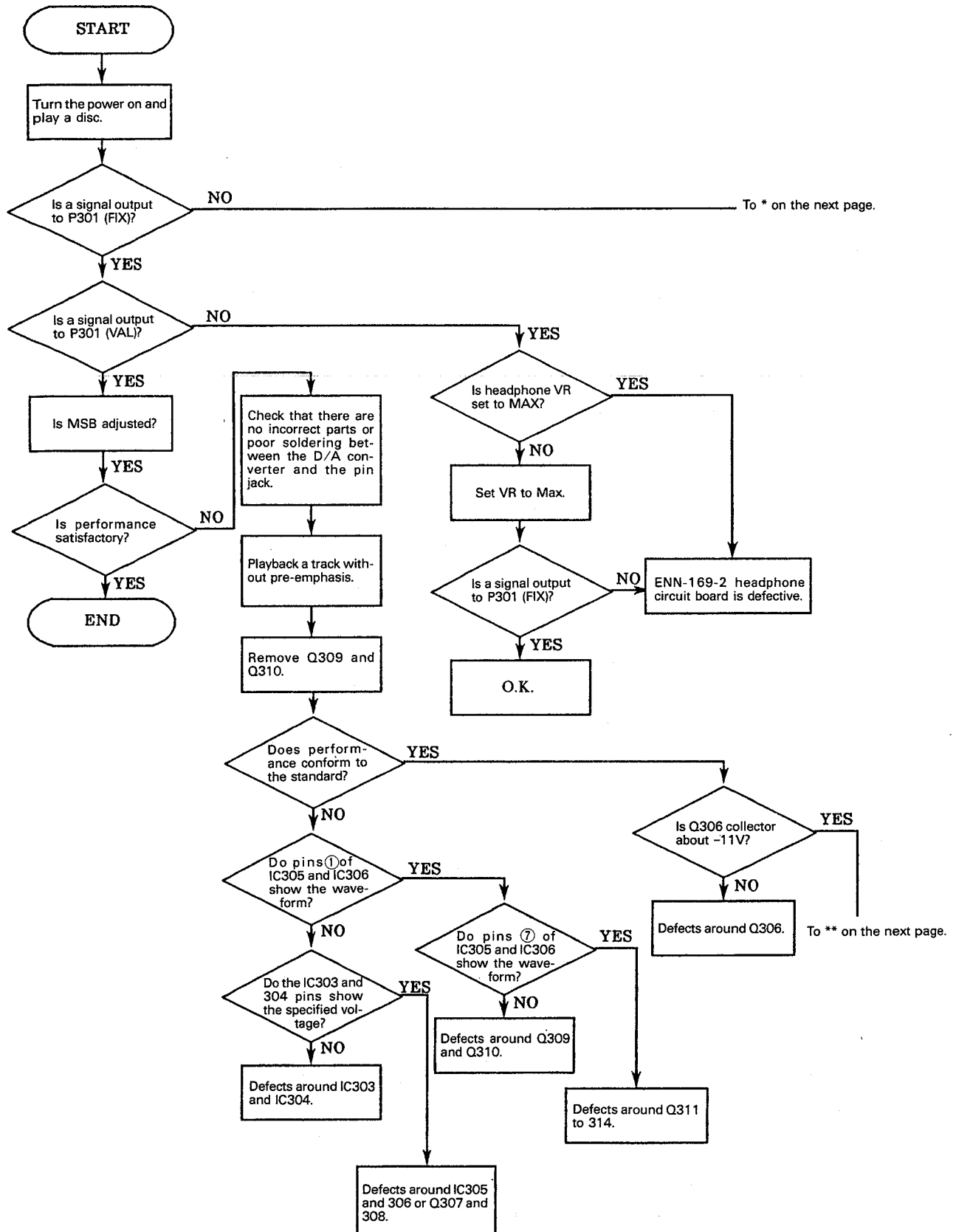
Feed Servo Section

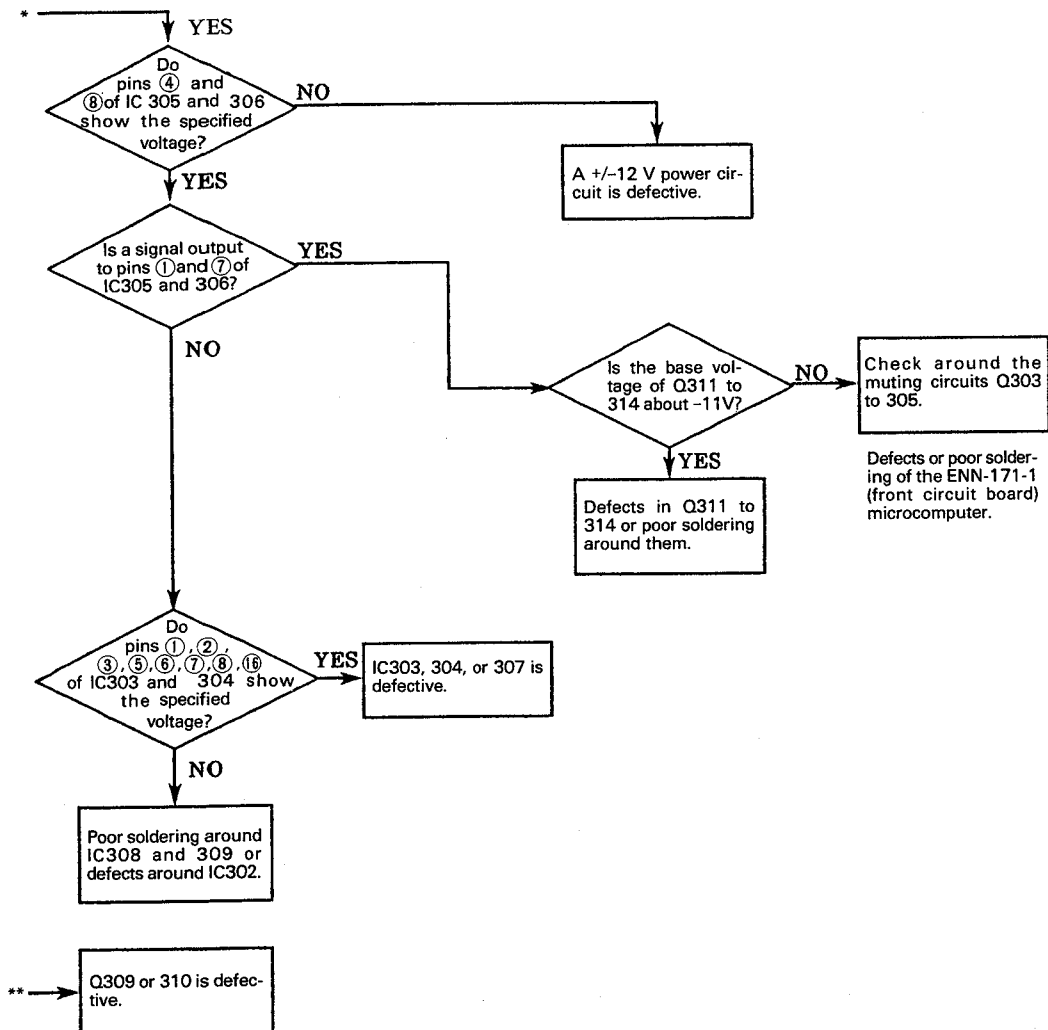


Spindle Servo Section

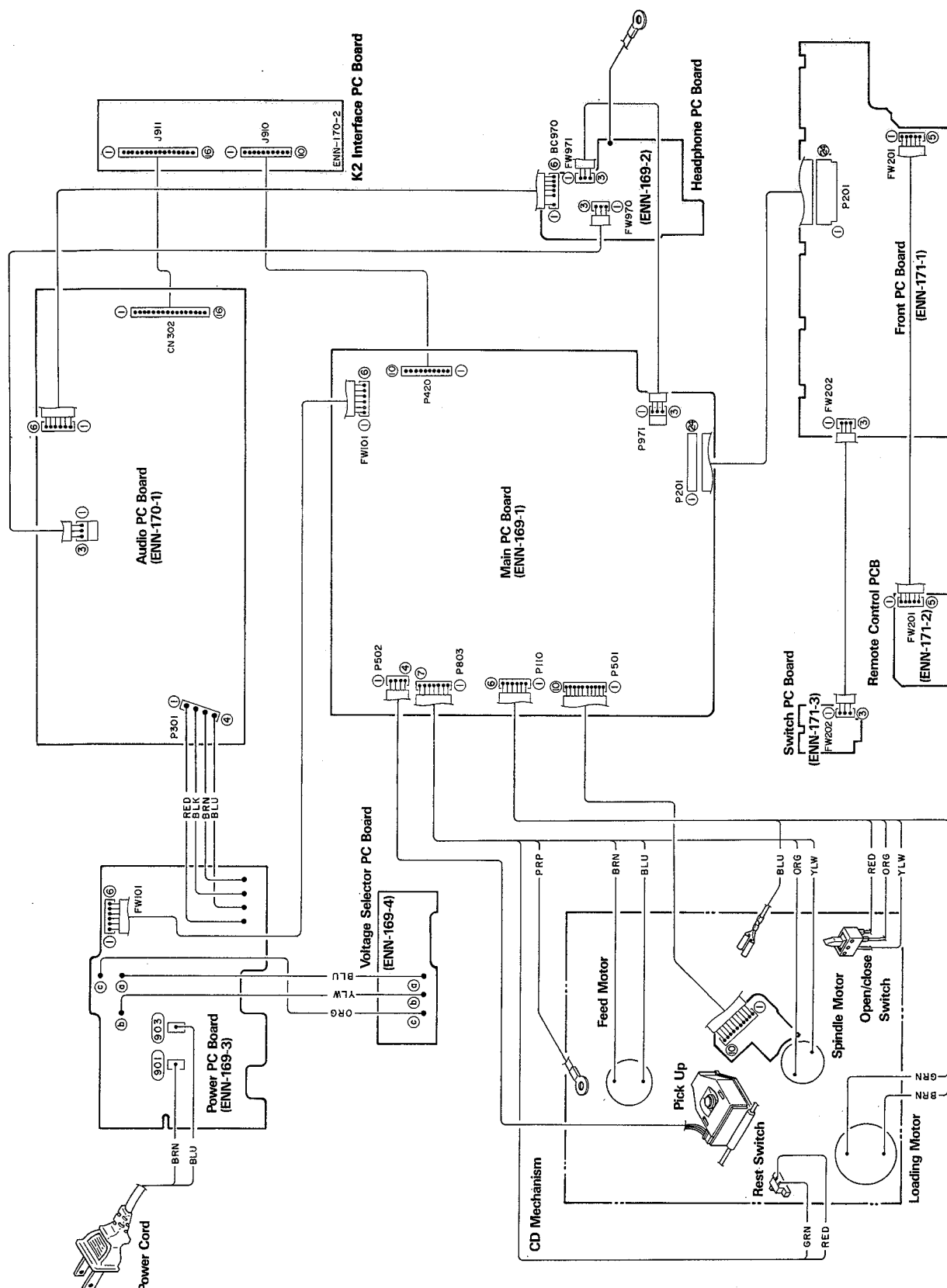


Audio (D/A and Subsequent)

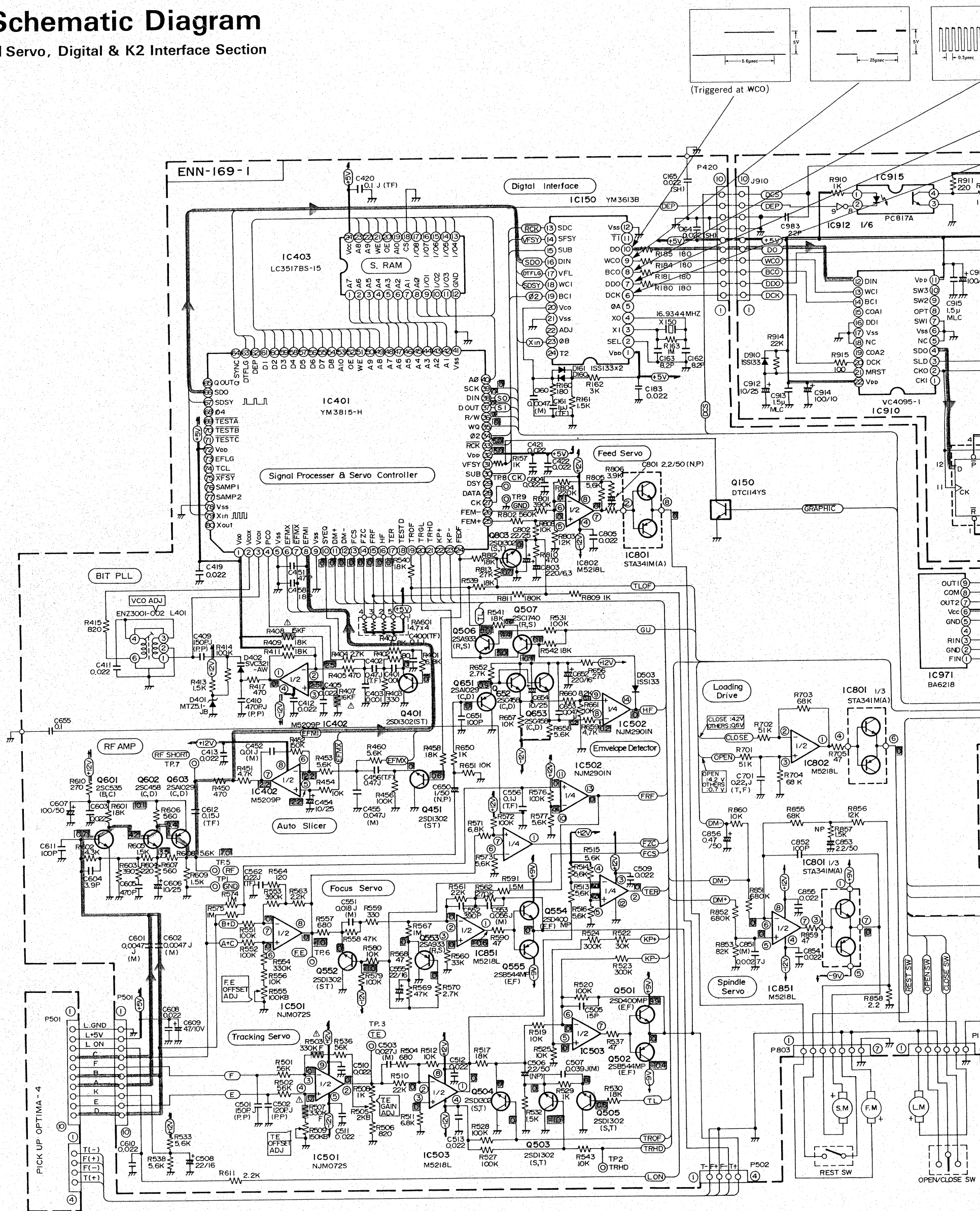




Connection Diagram



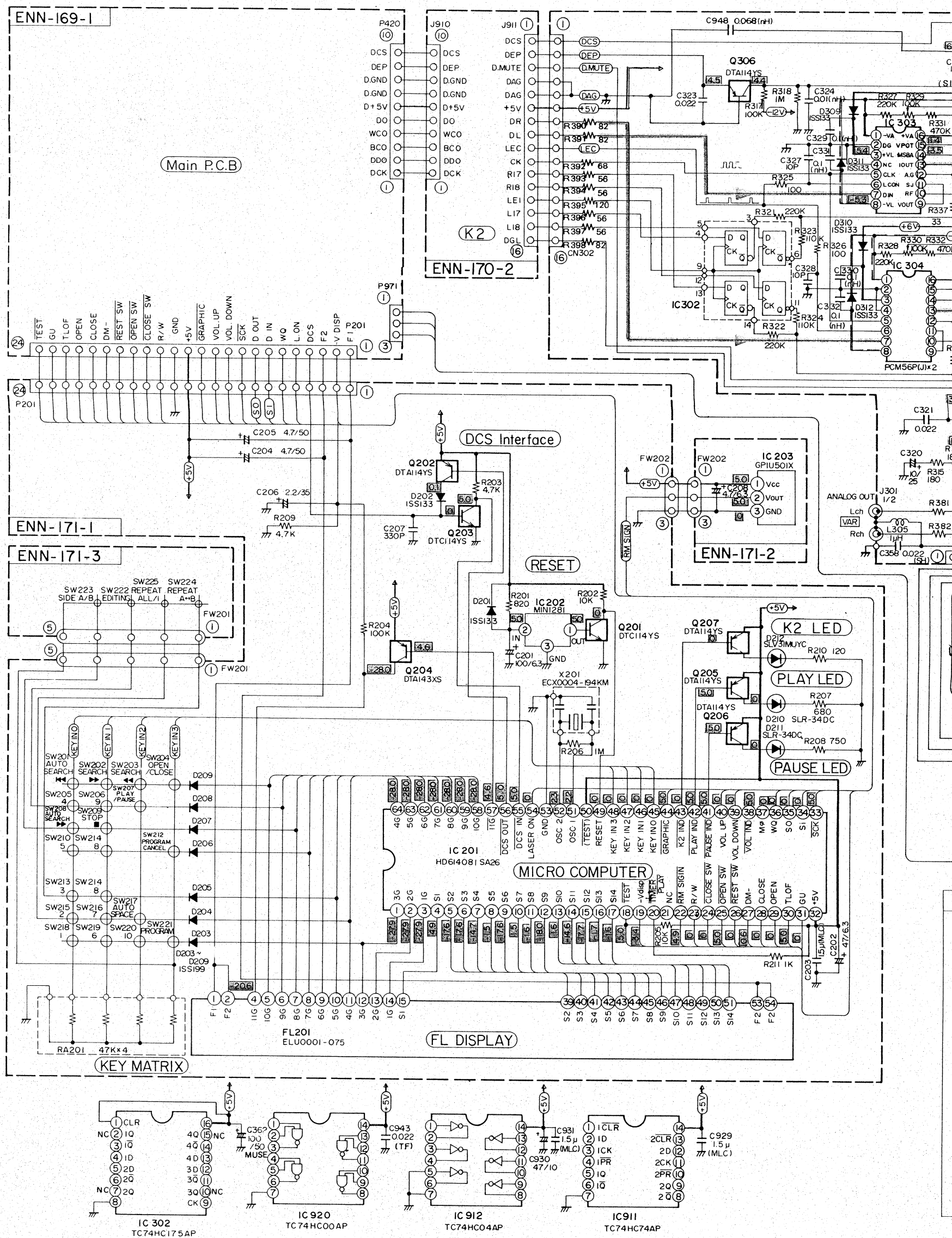
■ Servo, Digital & K2 Interface Section

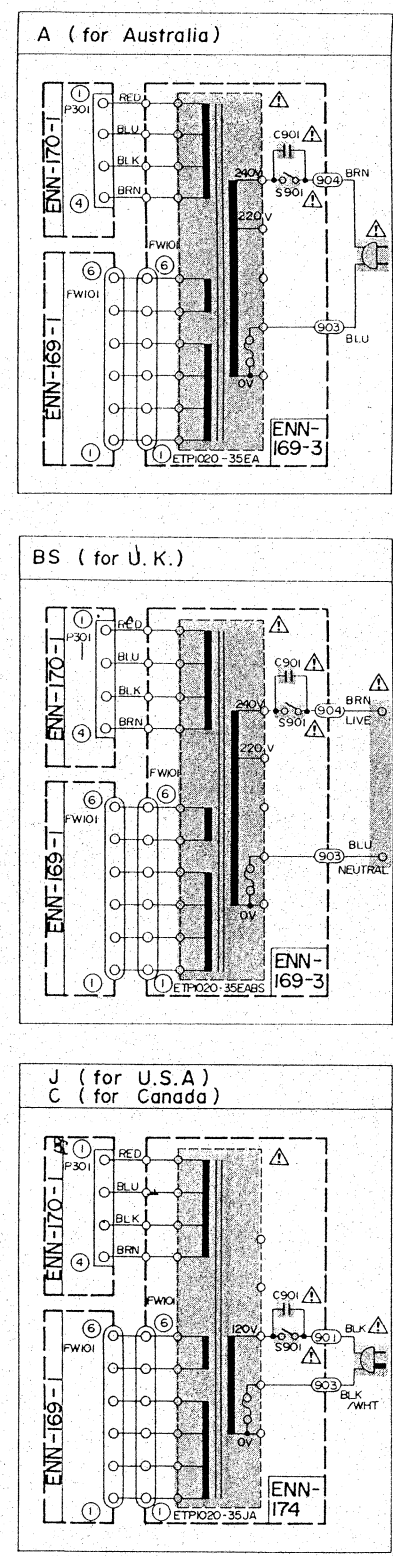
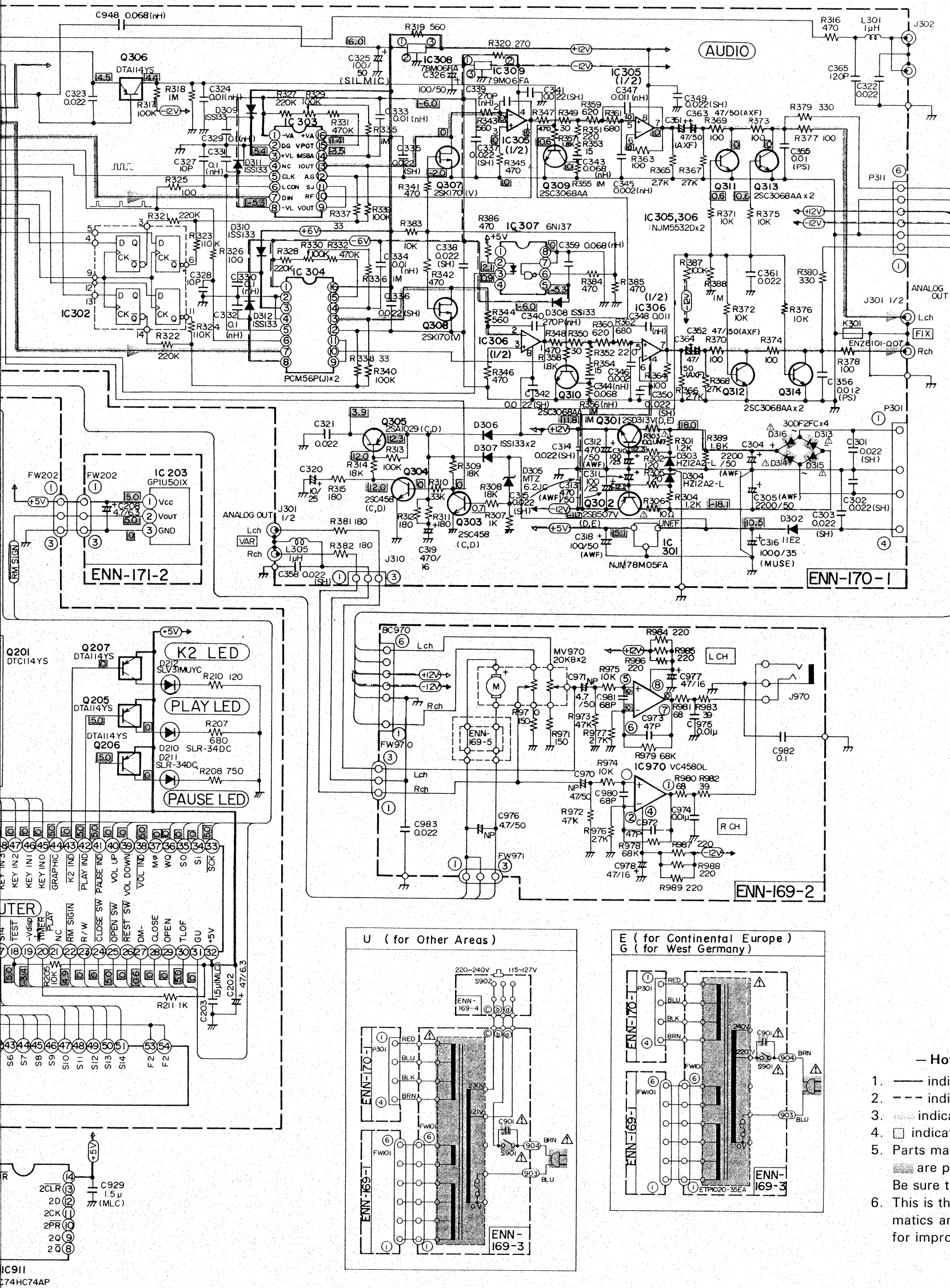


Triggered at WCO)

(Triggered at CK)

■ Audio & Front Section

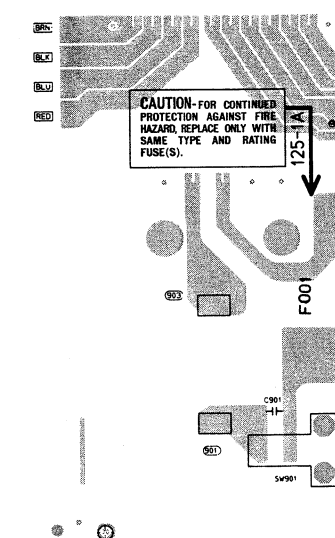
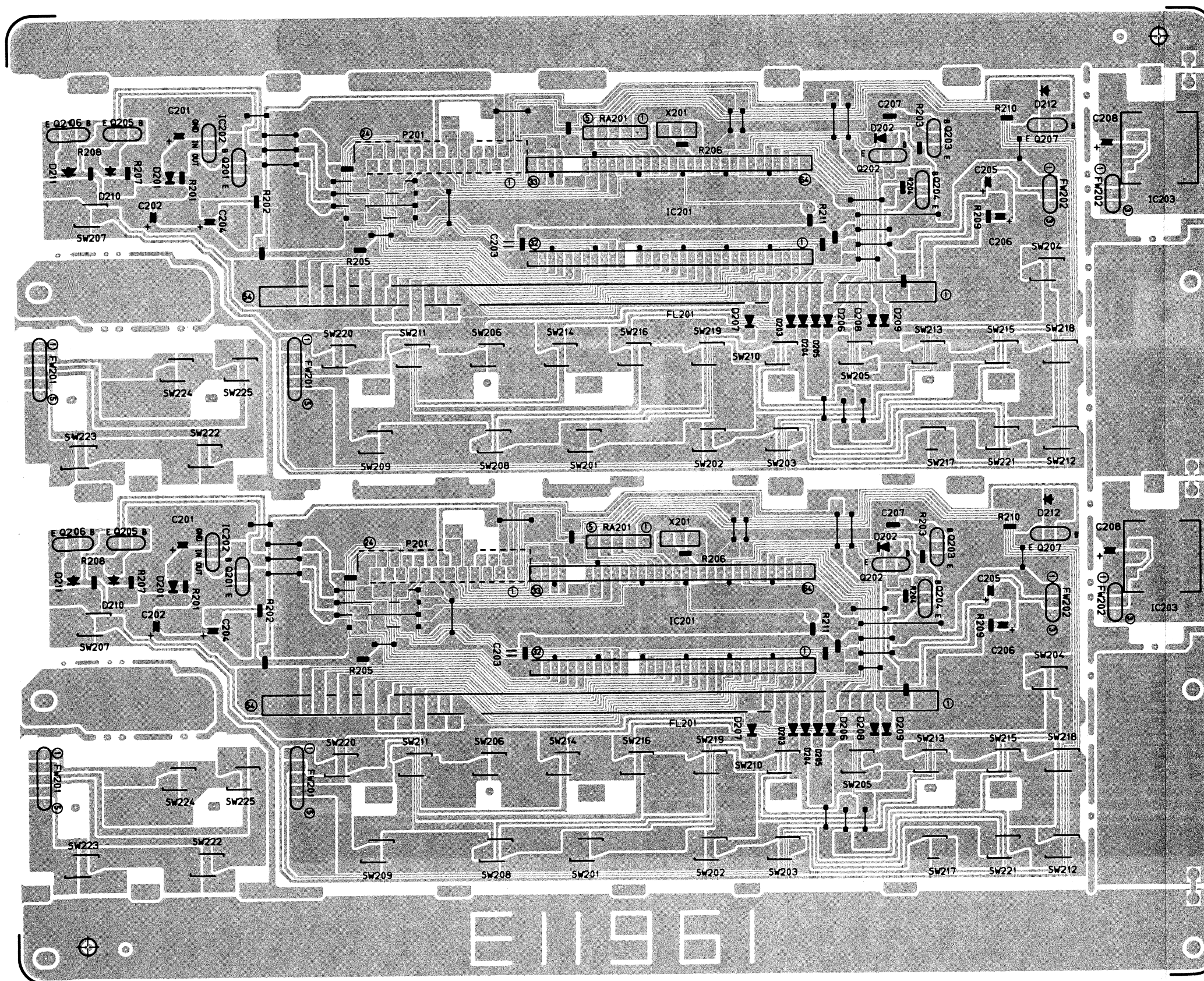




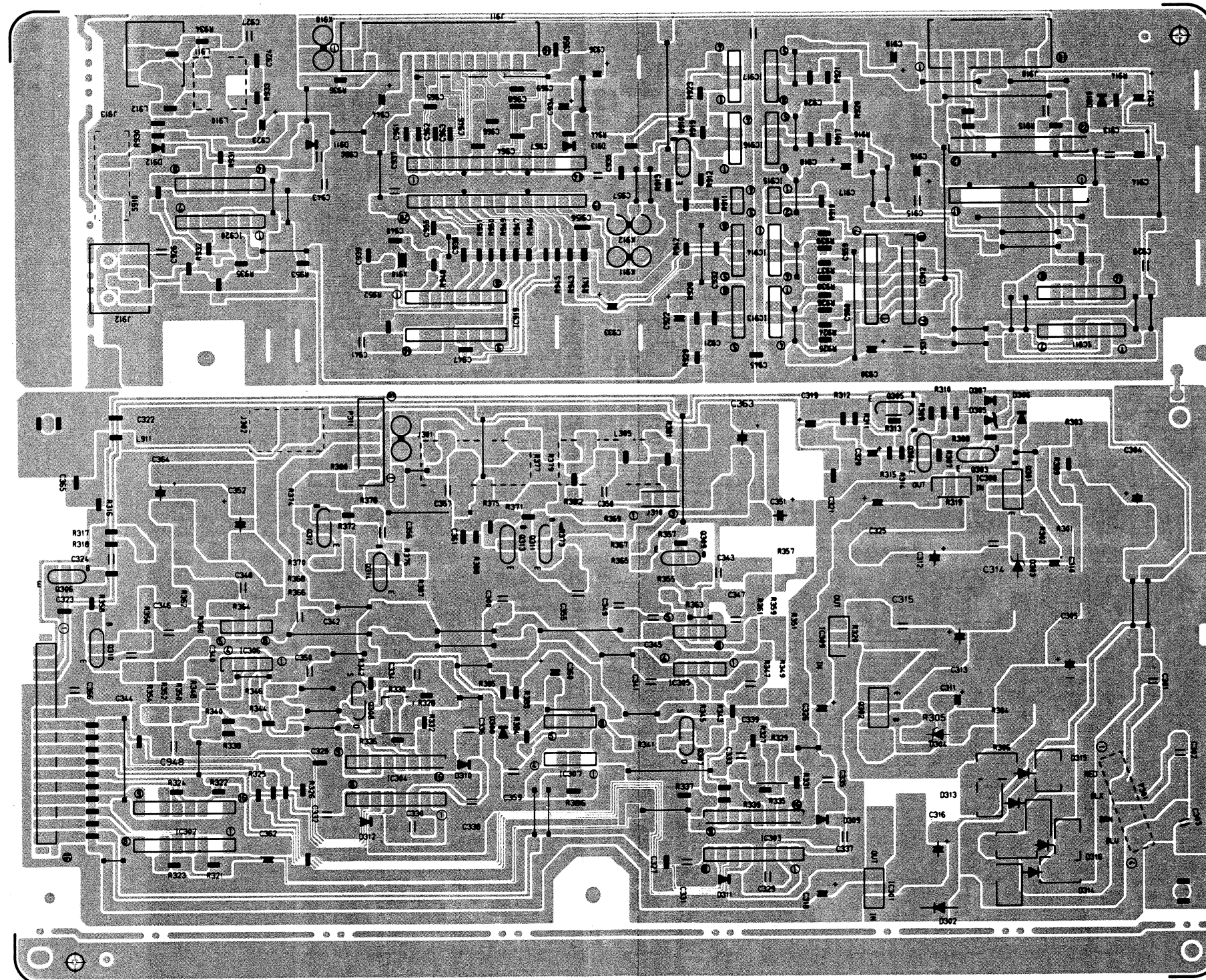
- How to Use Schematic Diagrams —
1. — indicates the +B line.
 2. - - - indicates the -B line.
 3. indicates signal path.
 4. indicates voltage value.
 5. Parts marked with Δ and those in the darkened area are parts for safety.
 6. This is the standard schematic diagram. The schematics and circuit constants are subject to change for improvement without notice.

■ Front PC Board, Remote Control PC Board, Switch PC Board (ENN-171)

■ Power PC Board (ENN-174)

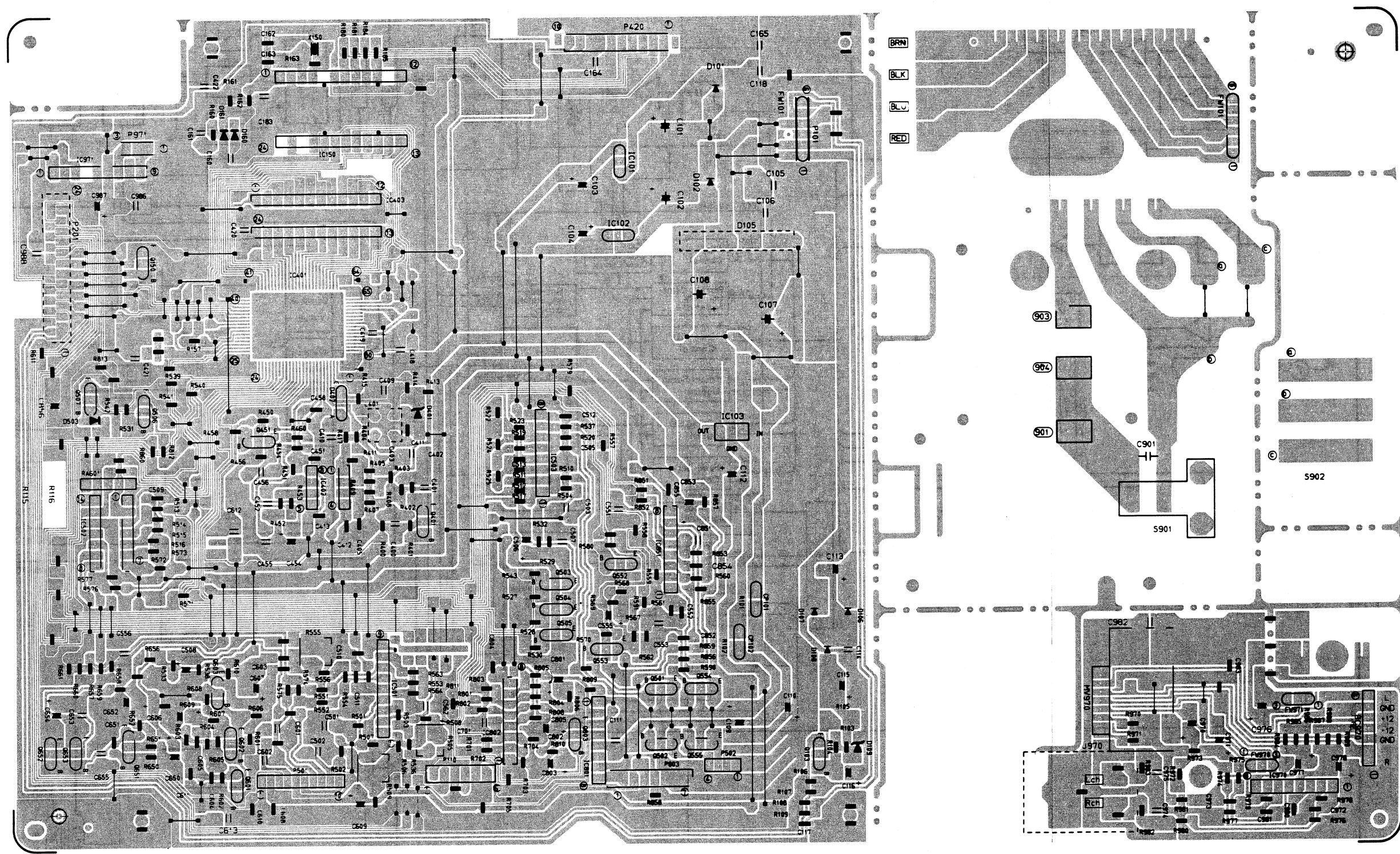


■ Audio PC Board, K2 Interface PC Board (ENN-170)

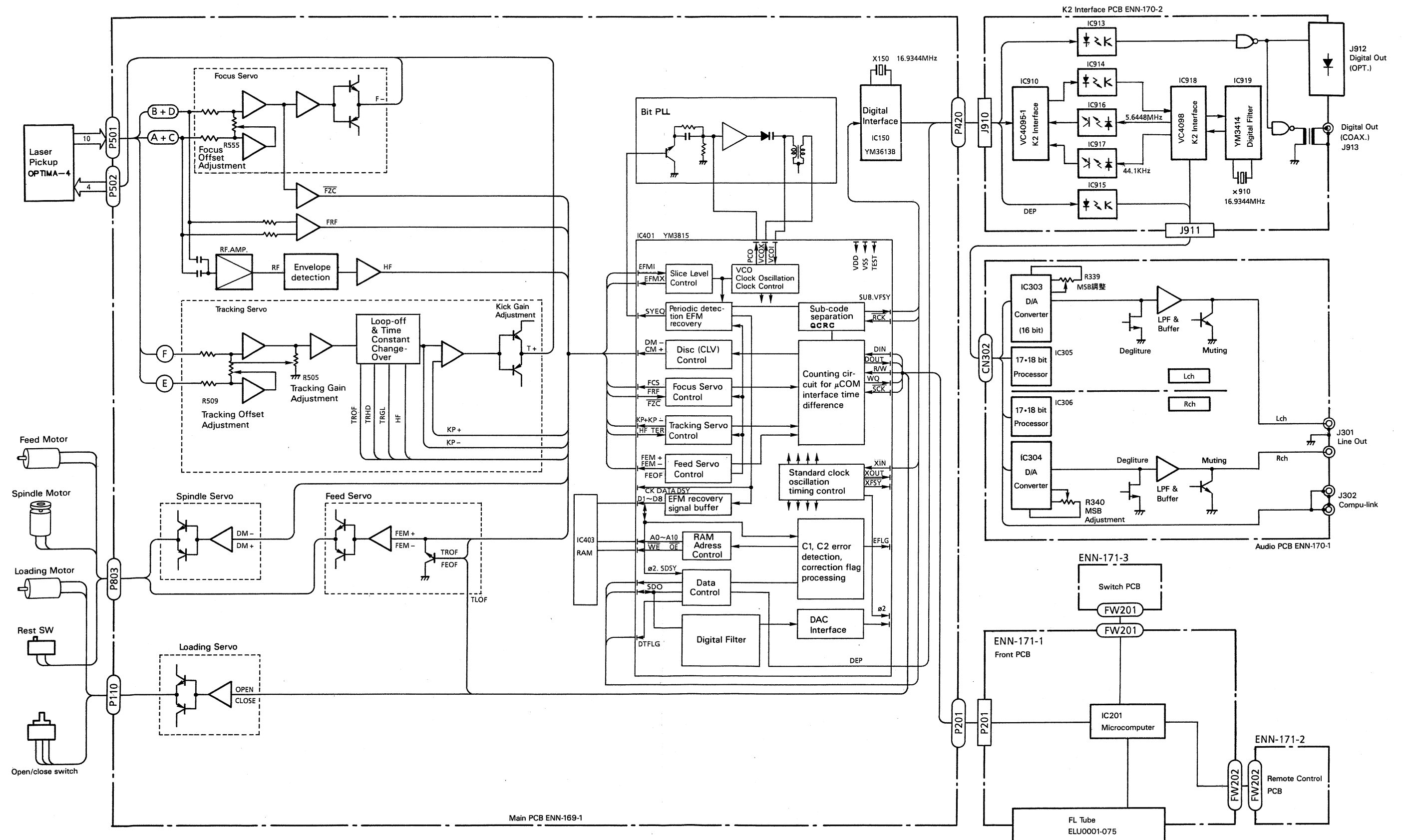


Printed Circuit Boards

■ Main PC Board, Headphone PC Board, Power PC Board (ENN-169)



Block Diagram

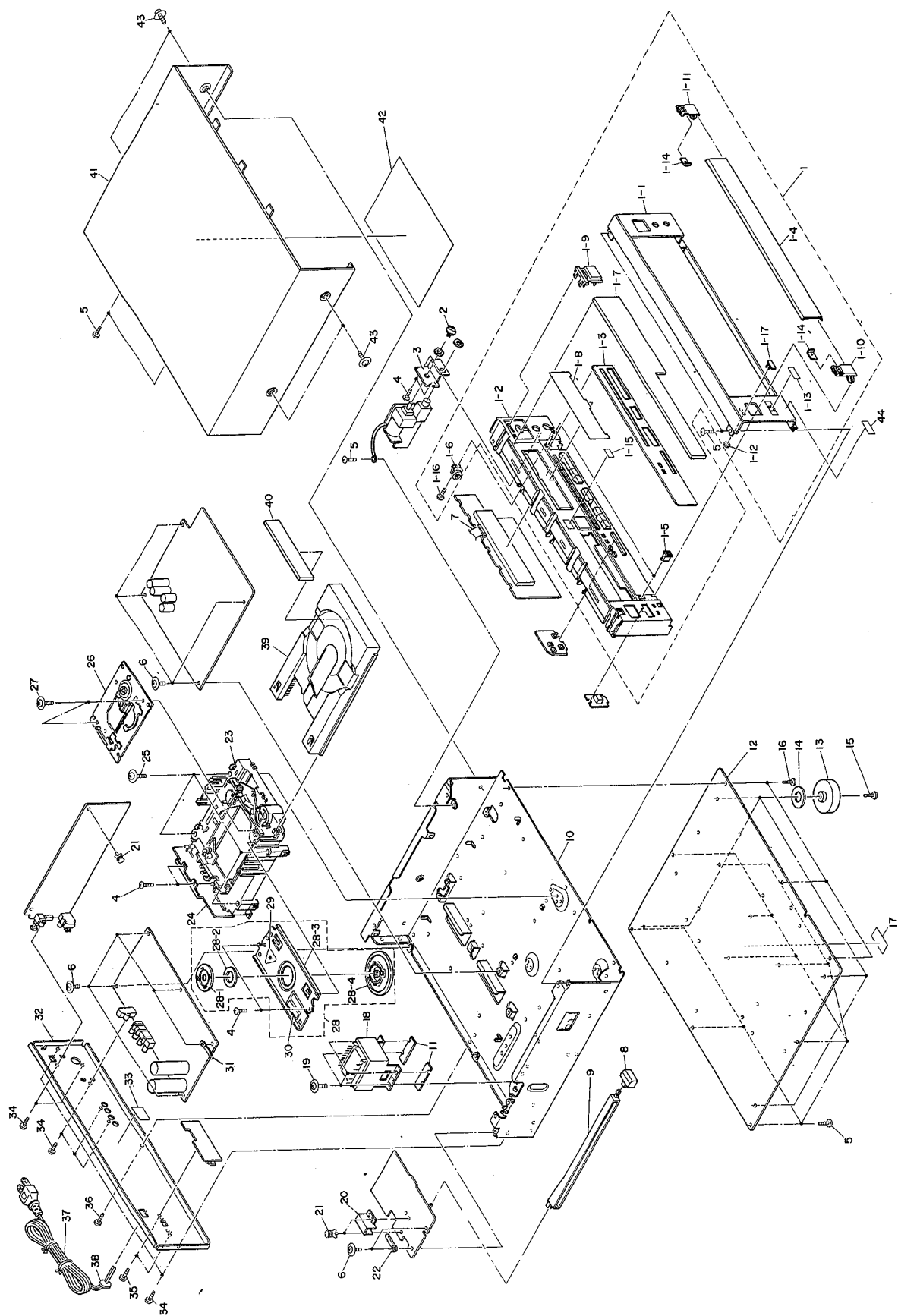


PARTS LIST

Contents

Exploded View and Parts List	2- 2
Mechanism Base Ass'y and Parts List	2- 4
Printed Circuit Board Ass'y and Parts List	2- 6
■ ENN-169 □ Main PC Board Ass'y	2- 6
■ ENN-174 □ Power Primary PC Board Ass'y	2- 9
■ ENN-170 ⑧ Audio Circuit PC Board Ass'y	2-10
■ ENN-171 ⑧ Front PC Board Ass'y	2-13
Accessories List	2-14
Packing Materials and Part Numbers	2-15

Exploded View and Parts List



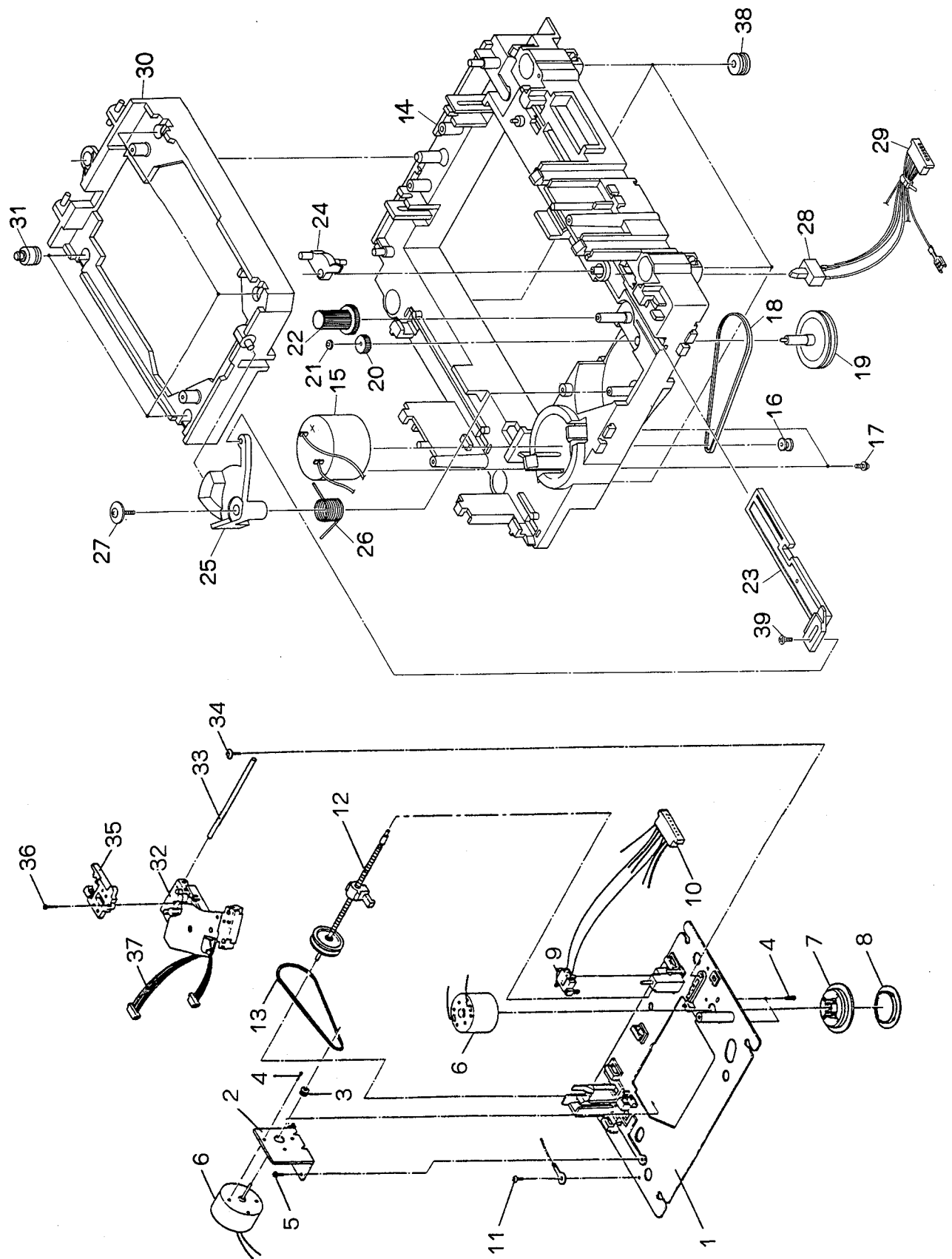
△	Item	Part Number	Part Name	Q'ty	Description	Areas
	1	EFP-XLZ1010TNE	Front Panel Ass'y	1		
	1-1	E26343-002	Front Panel	1		
	1-2	E11951-003	Front Base Ass'y	1		
	1-3	E26346-004	Ornament	1		
	1-4	E26353-003	Door	1		
	1-5	E305513-001	Magnet	2		
	1-6	E305654-003	Damper Ass'y	1		
	1-7	E305961-002	Window Screen	1		
	1-8	E305963-001	FL Screen	1		
	1-9	E305968-003	Push Button Ass'y	1		
	1-10	E305972-003	Hinge	1	Left	
	1-11	E305972-004	Hinge	1	Right	
	1-12	E60912-003	Speed Nut	1		
	1-13	E75174-004	Plate	1		
	1-14	E75176-001	Hinge Plate	2		
	1-15	E75370-001	Sheet	1		
	1-16	SBSF3008CC	Screw	1		
	1-17	E72968-001	JVC Mark	1		
	2	E304525-007	Valance Knob	1		
	3	E75175-001	Headphone Bracket	1		
	4	SBSF3008CC	Screw	4		J, C, U
	5	SBSF3008CC	Screw	6		E, G, A, BS
	6	SBSG3008CC	Screw	14		
	7	GBSG3008CC	Screw	11		
		EEWR1QG-16TT	Flat Cable	1		
	8	75079-005	Power Button	1		
	9	E305967-001	Push Shaft	1		
	10	E11949-001	Chassis Base	1		
	11	E75318-001	Sheet	1		
	12	E11950-001	Bottom Plate	1		
	13	E75088-014	Foot Ass'y	4		
	14	E75441-001	Spacer	4		
	15	SDST4012CC	Screw	4		
	16	SDSF3010M	Screw	3		
	17	E70281-001	UL Caution Label	1		J
△	18	ETP1020-35JA	Power Transformer	1		J, C
△		ETP1020-35LA	Power Transformer	1		U
△		ETP1020-35EA	Power Transformer	1		E, G, A
△		ETP1020-35EABS	Power Transformer	1		BS
	19	E65389-004	Special Screw	4		
	20	E75394-001	Shield Cover	1		E, G, A, BS
	21	E48729-008	Plastic Rivet	1		J, C, U
	22	E48729-008	Plastic Rivet	3		E, G, A, BS
	23	PU49485-1	Wire Clamp	1		
			Loading Unit	1	See page 2-4	
	24	E75260-001	Shield Plate	1		E, G, A, BS
	25	E74727-007	Special Screw	4		
	26		Mechanism Base Unit	1	See page 2-4	
	27	E74948-001	Special Screw	2		
	28	E305598-003	Clamper Ass'y	1		
	28-1	E74898-001	Yoke	1		
	28-2	E74897-001	Magnet	1		
	28-3	E305594-002	Clamper Base	1		
	28-4	E305595-003	Clamper	1		
	29	E71541-001	Etcher Mark	1		E
	30	E303875-004	Caution Label	1		
	31	E72018-001	Wire Clamp	1		J, C
	32	E26348-001	Rear Panel	1		U
		E26348-002	Rear Panel	1		E, G, A, BS
		E26348-003	Rear Panel	1		
	—	E25536-029	Rating Label	1		J
	—	E25096-180	Rating Label	1		C
	—	E25096-480	Rating Label	1		U
	—	E25096-580	Rating Label	1		E
	—	E25096-580F	Rating Label	1		G
	33	E74247-003	Caution Label	1		J
	34	E73273-003	Special Screw	7		
	35	SBSB2608CC	Special Screw	2		U
	36	E73562-003	Special Screw	1		
△	37	QMP1480-200H	Power Cord	1		J, C
△		QMP7520-200	Power Cord	1		U
△		QMP3900-200	Power Cord	1		E, G
△		QMP2560-244	Power Cord	1		A
△		QMP9017-008BS	Power Cord	1		BS
△	38	QHS3771-108	Cord Stopper	1		Except for BS
△		QHS3771-108BS	Cord Stopper	1		BS
	39	E12022-001	Tray	1		
	40	E305965-002	Fitting	1		
	41	E26350-003	Metal Cover	1		
	42	E305735-001	Plate	1		
	43	E61660-004	Special Screw	4		
	44	E49267-001	Origin Marking Label	1		BS

△ : Safety Parts

The Marks for Designated Areas

J	the U.S.A.	A	Australia
C	Canada	G	West Germany
U	Other Countries	BS	the U.K.
E	Europe		No mark indicates all areas.

Mechanism Base Ass'y and Parts List

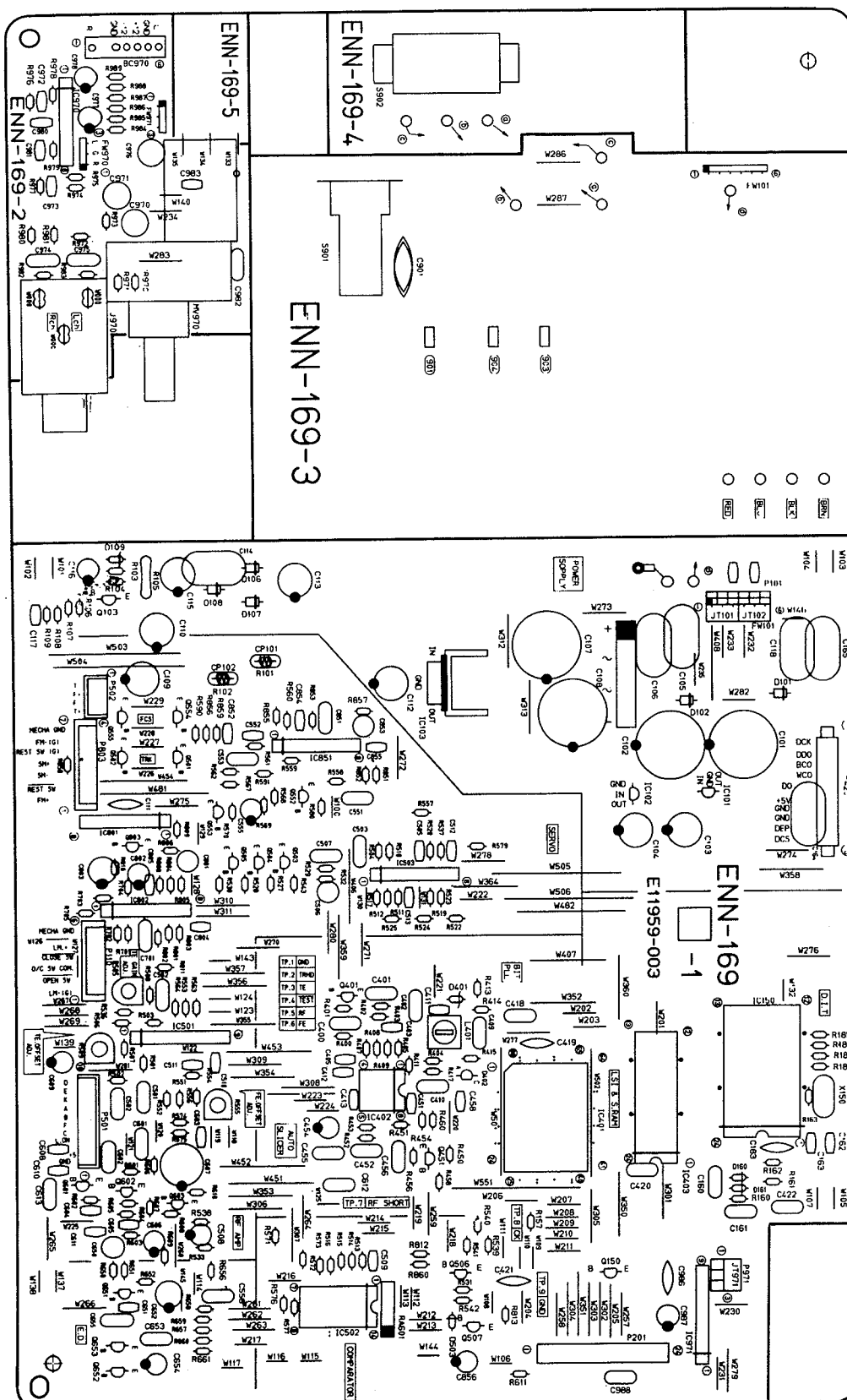


Item	Part Number	Part Name	Q'ty	Description	Areas
1	E11786-001	Base Ass'y	1		
2	E74900-001	Motor Bracket	1		
3	E73060-001	M. Pulley	1		
4	SDSP2003N	Screw	3		
5	SBSF3006M	Screw	1		
6	E74539-001	Motor	2		
7	E305604-001	CD Turn Table	1		
8	E74894-001	Yoke	1		
9	QSP2K11-E01	Push Switch	1		
10	EWS247-004	SKT Wire Ass'y	1		
11	SBSG3006Z	Screw	1	Earth	
12	E74891-001	S. Shaft Ass'y	1		
13	E74305-002	Belt	1		
14	E11787-003	CD Loading	1		
15	RF-500TB-12560	Motor	1		
16	E75054-001	M. Pulley	1		
17	SPSK2640Z	Screw	2		
18	E74347-004	Belt	1		
19	E74885-001	Pulley	1		
20	E74886-002	Gear	1		
21	E72024-001	Speed Nut	1		
22	E74887-002	Loading Gear	1		
23	E305596-002	Rack	1		
24	E74888-002	Lock Lever	1		
25	E305597-002	Elevator Lever	1		
26	E74889-002	Spring	1		
27	E65923-003	Screw	1		
28	ESS2100-003	Slide Switch	1		
29	EWS246-008	SKT Wire Ass'y	1		
30	E305615-005	Elevator Base Ass'y	1		
31	E74349-001	Insulator	4		
32	OPTIMA-4S	Pickup Ass'y	1		
33	E74930-001	Shaft	1		
34	E65923-005	Screw	1		
35	E305614-001	Pickup Holder	1		
36	LPSP2006Z	Screw	1		
37	EWS25A-B104	SKT Wire Ass'y	1		
38	E66509-004	Rubber Bushing	4		
39	E73035-003	Special Screw	1		

Printed Circuit Board Ass'y and Parts List

■ ENN-169 ☐ Main PC Board Ass'y

Note: ENN-169 ☐ Varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Designated Areas
ENN-169 D	the U.S.A., Canada
ENN-169 C	Europe, West Germany
ENN-169 E	Other Countries
ENN-169 F	Australia
ENN-169 D BS	the U.K.

TRANSISTORS

ITEM	PART NUMBER	DESCRIPTION	AREA
		MAKER	
Q103	2SA733A(P,Q)	SILICON NEC	
Q150	DTC114YS	SILICON ROHM	
Q401	2SD1302(S,T)	SILICON MATSUSHITA	
Q451	2SD1302(S,T)	SILICON MATSUSHITA	
Q501	2SD400MP(E,F)	SILICON SANYO	
Q502	2SB544MP(E,F)	SILICON SANYO	
Q503	2SD1302(S,T)	SILICON MATSUSHITA	
Q504	2SD1302(S,T)	SILICON MATSUSHITA	
Q505	2SD1302(S,T)	SILICON MATSUSHITA	
Q506	2SA933(R,S)	SILICON ROHM	
Q507	2SC1740(R,S)	SILICON ROHM	
Q552	2SD1302(S,T)	SILICON MATSUSHITA	
Q553	2SA933(R,S)	SILICON ROHM	
Q554	2SD400MP(E,F)	SILICON SANYO	
Q555	2SB544MP(E,F)	SILICON SANYO	
Q601	2SC535(B,C)	SILICON HITACHI	
Q602	2SC458(C,D)	SILICON HITACHI	
Q603	2SA1029(C,D)	SILICON HITACHI	
Q651	2SA1029(C,D)	SILICON HITACHI	
Q652	2SC458(C,D)	SILICON HITACHI	
Q653	2SC458(C,D)	SILICON HITACHI	
Q803	2SD1302(S,T)	SILICON MATSUSHITA	

Δ : SAFETY PARTS

I. C. S

ITEM	PART NUMBER	DESCRIPTION	AREA
		MAKER	
IC101	NJM78L12A	I.C. JRC	
IC102	NJM79L12A	I.C. JRC	
IC103	NJM78M05FA	I.C. JRC	
IC150	YM3613B	I.C. YAMAHA	
IC401	YM3815-H	I.C. YAMAHA	
IC402	M5209P	I.C. MITSUBISHI	
IC403	LC3517BS-15	I.C. SANYO	
IC501	NJM072S	I.C. JRC	
IC502	NJM2901N	I.C. JRC	
IC503	M5218L	I.C. MITSUBISHI	
IC801	STA341M(A)	I.C. SANKEN	
IC802	M5218L	I.C. MITSUBISHI	
IC851	M5218L	I.C. MITSUBISHI	
IC970	VC4580L	I.C. JRC	
IC971	BA6218	I.C. ROHM	

Δ : SAFETY PARTS

DIODES

ITEM	PART NUMBER	DESCRIPTION	AREA
		MAKER	
D101	ERA15-02L19	SILICON KYODO	
D102	ERA15-02L19	SILICON KYODO	
D105	D3SBA20F03	SI. DIODE SHINDENGEN	
D106	ERA15-02L19	SILICON KYODO	
D107	ERA15-02L19	SILICON KYODO	
D108	ERA15-02L19	SILICON KYODO	
D109	MT233JC	ZENER ROHM	
D160	1SS133	SILICON ROHM	
D161	1SS133	SILICON ROHM	
D401	MTZ5.1JB	ZENER ROHM	
D402	SVC321-AW	VARICAP SANYO	
D503	1SS133	SILICON ROHM	

Δ : SAFETY PARTS

CAPACITORS

ITEM	PART NUMBER	DESCRIPTION	AREA
C101	QET81EM-338	3300MF 25V ELECTRO	
C102	QET81EM-338	3300MF 25V ELECTRO	
C103	QET81CM-227	220MF 16V ELECTRO	
C104	QET81CM-227	220MF 16V ELECTRO	
C105	QFV81HJ-334	0.1MF 50V T.FILM	
C106	QFV81HJ-334	0.1MF 50V T.FILM	
C107	QET81CM-338	3300MF 16V ELECTRO	
C108	QET81CM-338	3300MF 16V ELECTRO	
C109	QET81CM-227	220MF 16V ELECTRO	
C110	QET81CM-227	220MF 16V ELECTRO	
C111	QCF21HP-223	0.022MF 50V CERAMIC	
C112	QET80JM-477	470MF 6.3V ELECTRO	
C113	QET81VM-107	100MF 35V ELECTRO	
C114	EFZ0101-223S	0.022MF M.MYLAR	
C115	QET81HM-107	100MF 50V ELECTRO	
C116	QET81HM-475	4.7MF 50V ELECTRO	
C117	QCH81EZ-223	0.022MF 25V CERAMIC	
C118	EFZ0101-223S	0.022MF M.MYLAR	
C160	QFN81HJ-472	4700PF 50V MYLAR	
C161	QFV81HJ-105	1MF 50V T.FILM	
C162	QCT30CH-8R2	8.2PF 50V CERAMIC	
C163	QCT30CH-8R2	8.2PF 50V CERAMIC	
C164	EFZ0096-223	0.022MF M.MYLAR	
C165	EFZ0096-223	0.022MF M.MYLAR	
C183	QCF21HP-223	0.022MF 50V CERAMIC	
C400	QFV81HJ-104	0.1MF 50V T.FILM	
C401	QFN81HJ-103	0.01MF 50V MYLAR	
C402	QFV81HJ-474	0.47MF 50V T.FILM	
C403	QCG81HK-102	1000PF 50V CERAMIC	
C405	QCH81EZ-223	0.022MF 25V CERAMIC	
C409	QFP81HJ-151	150PF 50V POLY	
C410	QFP81HJ-471	470PF 50V POLY	
C411	QCH81EZ-223	0.022MF 25V CERAMIC	
C412	QCH81EZ-223	0.022MF 25V CERAMIC	
C413	QCH81EZ-223	0.022MF 25V CERAMIC	
C419	QCF21HP-223	0.022MF 50V CERAMIC	
C420	QFV81HJ-104	0.1MF 50V T.FILM	
C421	QCF21HP-473	0.047MF 50V CERAMIC	
C451	QCS81HJ-470	47PF 50V CERAMIC	
C452	QFN81HJ-103	0.01MF 50V MYLAR	
C454	QET81EM-106	10MF 25V ELECTRO	
C455	QFN81HJ-473	0.047MF 50V MYLAR	
C456	QFV81HJ-474	0.47MF 50V T.FILM	
C458	QCS81HJ-180	18PF 50V CERAMIC	
C501	QFP81HJ-151	150PF 50V POLY	
C502	QFP81HJ-121	120PF 50V POLY	
C503	QFN81HJ-273	0.027MF 50V MYLAR	
C505	QCS81HJ-150	15PF 50V CERAMIC	
C506	QEN51HM-225	2.2MF 50V NON POLE	
C507	QFN81HJ-393	0.039MF 50V MYLAR	
C508	QET81CM-226	22MF 16V ELECTRO	
C509	QCH81EZ-223	0.022MF 25V CERAMIC	
C510	QCH81EZ-223	0.022MF 25V CERAMIC	
C511	QCH81EZ-223	0.022MF 25V CERAMIC	
C512	QCH81EZ-223	0.022MF 25V CERAMIC	
C513	QCH81EZ-223	0.022MF 25V CERAMIC	
C551	QFN81HJ-183	0.018MF 50V MYLAR	
C552	QCB81HK-391	390PF 50V CERAMIC	
C553	QFN81HJ-563	0.056MF 50V MYLAR	
C555	QET81CM-226	22MF 16V ELECTRO	
C556	QFV81HJ-104	0.1MF 50V T.FILM	
C562	QFV81HJ-224	0.22MF 50V T.FILM	
C601	QFN81HJ-472	4700PF 50V MYLAR	
C602	QFN81HJ-472	4700PF 50V MYLAR	
C603	QCH81EZ-223	0.022MF 25V CERAMIC	
C604	QCT30CH-3R9	3.9PF 50V CERAMIC	
C605	QCB81HK-471	470PF 50V CERAMIC	
C606	QET81EM-106	10MF 25V ELECTRO	
C607	EEZ5006-107	100MF ELECTRO	
C608	QCH81EZ-223	0.022MF 25V CERAMIC	
C609	QET81AM-476	47MF 10V ELECTRO	
C610	QCH81EZ-223	0.022MF 25V CERAMIC	
C611	QCB81HK-101	100PF 50V CERAMIC	
C612	QFV81HJ-154	0.15MF 50V T.FILM	
C650	QEN51HM-105	1MF 50V NON POLE	
C651	QCB81HK-101	100PF 50V CERAMIC	
C652	QET81CM-227	220MF 16V ELECTRO	
C653	QFN81HJ-473	0.047MF 50V MYLAR	
C654	QET81EM-106	10MF 25V ELECTRO	
C655	QFV81HJ-104	0.1MF 50V T.FILM	
C701	QFV81HJ-824	0.22MF 50V T.FILM	
C801	QEN51HM-225	2.2MF 50V NON POLE	
C802	QET81EM-226	22MF 25V ELECTRO	
C803	QET80JM-227	220MF 6.3V ELECTRO	
C804	QCH81EZ-223	0.022MF 25V CERAMIC	
C805	QCH81EZ-223	0.022MF 25V CERAMIC	
C851	QFN81HJ-272	2700PF 50V MYLAR	
C852	QCB81HK-101	100PF 50V CERAMIC	
C853	QEN51HM-225	2.2MF 50V NON POLE	
C854	QCH81EZ-223	0.022MF 25V CERAMIC	

Δ : SAFETY PARTS

CAPACITORS

△	ITEM	PART NUMBER	DESCRIPTION			AREA
	C855	QCH81EZ-223	0.022MF	25V	CERAMIC	C E F DBS
	C856	QETB1HM-474	0.47MF	50V	ELECTRO	
	C901	QCZ9038-103	0.01MF		CERAMIC	
	C901	QCZ9038-103	0.01MF		CERAMIC	
	C901	QCZ9038-103	0.01MF		CERAMIC	
	C901	QCZ9038-103BS	0.01MF		CERAMIC	
	C970	QEN51HM-475	4.7MF	50V	NON POLE	
	C971	QEN51HM-475	4.7MF	50V	NON POLE	
	C972	QCSB1HJ-470	47PF	50V	CERAMIC	
	C973	QCSB1HJ-470	47PF	50V	CERAMIC	
	C974	QFN81HJ-103	0.01MF	50V	MYLAR	
	C975	QFN81HJ-103	0.01MF	50V	MYLAR	
	C976	QEN51HM-475	4.7MF	50V	NON POLE	
	C977	QETB1CM-476	47MF	16V	ELECTRO	
	C978	QETB1CM-476	47MF	16V	ELECTRO	
	C980	QCSB1HJ-680	68PF	50V	CERAMIC	
	C981	QCSB1HJ-680	68PF	50V	CERAMIC	
	C983	QCH81EZ-223	0.022MF	25V	CERAMIC	
	C986	QCF21HP-223	0.022MF	50V	CERAMIC	
	C987	GETB1AM-476	47MF	10V	ELECTRO	

△ : SAFETY PARTS

RESISTORS

△	ITEM	PART NUMBER	DESCRIPTION			AREA
	R101	PTH61G30B02R2N			POSISTOR	
	R102	PTH61G30B02R2N			POSISTOR	
	R103	QRD167J-122	1.2K	1/6W	CARBON	
	R104	QRD167J-121	120	1/6W	CARBON	
	R105	QRZ0077-560	56	1/4W	FUSIBLE	
	R106	QRV144F-3301	3.3K	1/4W	M.FILM	
	R107	QRV144F-3301	3.3K	1/4W	M.FILM	
	R108	QRV144F-3301	3.3K	1/4W	M.FILM	
	R109	QRV144F-3301	3.3K	1/4W	M.FILM	
	R157	QRD167J-102	1K	1/6W	CARBON	
	R160	QRD167J-181	180	1/6W	CARBON	
	R161	QRD167J-152	1.5K	1/6W	CARBON	
	R162	QRD167J-302	3K	1/6W	CARBON	
	R163	QRD167J-105	1M	1/6W	CARBON	
	R180	QRD167J-181	180	1/6W	CARBON	
	R181	QRD167J-181	180	1/6W	CARBON	
	R184	QRD167J-181	180	1/6W	CARBON	
	R185	QRD167J-181	180	1/6W	CARBON	
	R400	QRD167J-682	6.8K	1/6W	CARBON	
	R401	QRD167J-682	6.8K	1/6W	CARBON	
	R402	QRD167J-181	180	1/6W	CARBON	
	R403	QRD167J-331	330	1/6W	CARBON	
	R404	QRD167J-272	2.7K	1/6W	CARBON	
	R405	QRD167J-471	470	1/6W	CARBON	
	R407	QRV144F-1602	16K	1/4W	M.FILM	
	R408	QRV144F-1502	15K	1/4W	M.FILM	
	R409	QRD167J-183	18K	1/6W	CARBON	
	R411	QRD167J-183	18K	1/6W	CARBON	
	R413	QRD167J-152	1.5K	1/6W	CARBON	
	R414	QRD167J-104	100K	1/6W	CARBON	
	R415	QRD167J-821	820	1/6W	CARBON	
	R417	QRD167J-471	470	1/6W	CARBON	
	R450	QRD167J-471	470	1/6W	CARBON	
	R451	QRD167J-472	4.7K	1/6W	CARBON	
	R452	QRD167J-154	150K	1/6W	CARBON	
	R453	QRD167J-562	5.6K	1/6W	CARBON	
	R454	QRD167J-103	10K	1/6W	CARBON	
	R456	QRD167J-104	100K	1/6W	CARBON	
	R458	QRD167J-183	18K	1/6W	CARBON	
	R460	QRD167J-562	5.6K	1/6W	CARBON	
	R501	QRD167J-563	56K	1/6W	CARBON	
	R502	QRD167J-563	56K	1/6W	CARBON	
	R503	QRV144F-3303	330K	1/4W	M.FILM	
	R504	QRD167J-681	680	1/6W	CARBON	
	R505	QVPA601-202A	2K		VARIABLE	
	R506	QRD167J-821	820	1/6W	CARBON	
	R507	QRV144F-3303	330K	1/4W	M.FILM	
	R508	QRD167J-102	1K	1/6W	CARBON	
	R509	QVPA601-154A	150K		VARIABLE	
	R510	QRD167J-223	22K	1/6W	CARBON	
	R511	QRD167J-682	6.8K	1/6W	CARBON	
	R512	QRD167J-103	10K	1/6W	CARBON	
	R513	QRD167J-562	5.6K	1/6W	CARBON	
	R514	QRD167J-562	5.6K	1/6W	CARBON	
	R515	QRD167J-562	5.6K	1/6W	CARBON	
	R516	QRD167J-562	5.6K	1/6W	CARBON	
	R517	QRD167J-183	18K	1/6W	CARBON	
	R519	QRD167J-103	10K	1/6W	CARBON	
	R520	QRD167J-104	100K	1/6W	CARBON	
	R522	QRD167J-303	30K	1/6W	CARBON	

△ : SAFETY PARTS

RESISTORS

△	ITEM	PART NUMBER	DESCRIPTION			AREA
	R523	QRD167J-304	300K	1/6W	CARBON	
	R524	QRD167J-304	300K	1/6W	CARBON	
	R525	QRD167J-103	10K	1/6W	CARBON	
	R527	QRD167J-104	100K	1/6W	CARBON	
	R528	QRD167J-104	100K	1/6W	CARBON	
	R529	QRD167J-102	1K	1/6W	CARBON	
	R530	QRD167J-183	18K	1/6W	CARBON	
	R531	QRD167J-104	100K	1/6W	CARBON	
	R532	QRD167J-152	1.5K	1/6W	CARBON	
	R533	QRD167J-562	5.6K	1/6W	CARBON	
	R536	QRD167J-563	56K	1/6W	CARBON	
	R537	QRD167J-470	47	1/6W	CARBON	
	R538	QRD167J-562	5.6K	1/6W	CARBON	
	R539	QRD167J-183	18K	1/6W	CARBON	
	R540	QRD167J-183	18K	1/6W	CARBON	
	R541	QRD167J-183	18K	1/6W	CARBON	
	R542	QRD167J-183	18K	1/6W	CARBON	
	R543	QRD167J-103	10K	1/6W	CARBON	
	R551	QRD167J-104	100K	1/6W	CARBON	
	R552	QRD167J-104	100K	1/6W	CARBON	
	R553	QRD167J-394	390K	1/6W	CARBON	
	R554	QRD167J-334	330K	1/6W	CARBON	
	R555	QVPA601-104A	100K		VARIABLE	
	R556	QRD167J-103	10K	1/6W	CARBON	
	R557	QRD167J-681	680	1/6W	CARBON	
	R558	QRD167J-473	47K	1/6W	CARBON	
	R559	QRD167J-331	330	1/6W	CARBON	
	R560	QRD167J-333	33K	1/6W	CARBON	
	R561	QRD167J-223	22K	1/6W	CARBON	
	R562	QRD167J-274	270K	1/6W	CARBON	
	R563	QRD167J-182	1.8K	1/6W	CARBON	
	R564	QRD167J-121	120	1/6W	CARBON	
	R567	QRD167J-105	1M	1/6W	CARBON	
	R568	QRD167J-470	47	1/6W	CARBON	
	R569	QRD167J-473	47K	1/6W	CARBON	
	R570	QRD167J-272	2.7K	1/6W	CARBON	
	R571	QRD167J-682	6.8K	1/6W	CARBON	
	R572	QRD167J-104	100K	1/6W	CARBON	
	R573	QRD167J-562	5.6K	1/6W	CARBON	
	R574	QRD167J-105	1M	1/6W	CARBON	
	R575	QRD167J-105	1M	1/6W	CARBON	
	R576	QRD167J-104	100K	1/6W	CARBON	
	R577	QRD167J-562	5.6K	1/6W	CARBON	
	R579	QRD167J-104	100K	1/6W	CARBON	
	R580	QRD167J-103	10K	1/6W	CARBON	
	R590	QRD167J-470	47	1/6W	CARBON	
	R591	QRD167J-155	1.5M	1/6W	CARBON	
	R601	QRD167J-183	18K	1/6W	CARBON	
	R602	QRD167J-432	4.3K	1/6W	CARBON	
	R603	QRD167J-391	390	1/6W	CARBON	
	R604	QRD167J-221	220	1/6W	CARBON	
	R605	QRD167J-152	1.5K	1/6W	CARBON	
	R606	QRD167J-561	560	1/6W	CARBON	
	R607	QRD167J-561	560	1/6W	CARBON	
	R608	QRD167J-562	5.6K	1/6W	CARBON	
	R609	QRD167J-152	1.5K	1/6W	CARBON	
	R610	QRD167J-271	270	1/6W	CARBON	
	R611	QRD167J-222	2.2K	1/6W	CARBON	
	R650	QRD167J-102	1K	1/6W	CARBON	
	R651	QRD167J-103	10K	1/6W	CARBON	
	R652	QRD167J-272	2.7K	1/6W	CARBON	
	R656	QRD167J-271	270	1/6W	CARBON	
	R657	QRD167J-103	10K	1/6W	CARBON	
	R658	QRD167J-562	5.6K	1/6W	CARBON	
	R659	QRD167J-472	4.7K	1/6W	CARBON	
	R660	QRD167J-822	8.2K	1/6W	CARBON	
	R661	QRD167J-103	10K	1/6W	CARBON	
	R701	QRD167J-513	51K	1/6W	CARBON	
	R702	QRD167J-513	51K	1/6W	CARBON	
	R703	QRD167J-683	68K	1/6W	CARBON	
	R704	QRD167J-683	68K	1/6W	CARBON	
	R705	QRD167J-470	47	1/6W	CARBON	
	R801	QRD167J-394	390K	1/6W	CARBON	
	R802	QRD167J-564	560K	1/6W	CARBON	
	R803	QRD167J-123	12K	1/6W	CARBON	
	R804	QRD167J-224	220K	1/6W	CARBON	
	R805	QRD167J-562	5.6K	1/6W	CARBON	
	R806	QRD167J-392	3.9K	1/6W	CARBON	
	R808	QRD167J-103	10K	1/6W	CARBON	
	R809	QRD167J-102	1K	1/6W	CARBON	
	R810	QRD167J-471	470	1/6W	CARBON	
	R811	QRD167J-184	180K	1/6W	CARBON	
	R812	QRD167J-183	18K	1/6W	CARBON	
	R813	QRD167J-273	27K	1/6W	CARBON	
	R851	QRD167J-684	680K	1/6W	CARBON	
	R852	QRD167J-684	680K	1/6W	CARBON	
	R853	QRD167J-823	82K	1/6W	CARBON	
	R855	QRD167J-683	68K	1/6W	CARBON	
	R856	QRD167J-123	12K	1/6W	CARBON	
	R857	QRD167J-152	1.5K	1/6W	CARBON	

△ : SAFETY PARTS

RESISTORS

△	ITEM	PART NUMBER	DESCRIPTION	AREA
	R858	QRD167J-2R2	2.2 1/6W CARBON	
	R859	QRD167J-470	47 1/6W CARBON	
	R860	QRD167J-103	10K 1/6W CARBON	
	R970	QRD167J-151	150 1/6W CARBON	
	R971	QRD167J-151	150 1/6W CARBON	
	R972	QRD167J-473	47K 1/6W CARBON	
	R973	QRD167J-473	47K 1/6W CARBON	
	R974	QRD167J-103	10K 1/6W CARBON	
	R975	QRD167J-103	10K 1/6W CARBON	
	R976	QRD167J-273	27K 1/6W CARBON	
	R977	QRD167J-273	27K 1/6W CARBON	
	R978	QRD167J-683	68K 1/6W CARBON	
	R979	QRD167J-683	68K 1/6W CARBON	
	R980	QRD167J-680	68 1/6W CARBON	
	R981	QRD167J-680	68 1/6W CARBON	
	R982	QRD167J-390	39 1/6W CARBON	
	R983	QRD167J-390	39 1/6W CARBON	
	R984	QRD167J-221	220 1/6W CARBON	
	R985	QRD167J-221	220 1/6W CARBON	
	R986	QRD167J-221	220 1/6W CARBON	
	R987	QRD167J-221	220 1/6W CARBON	
	R988	QRD167J-221	220 1/6W CARBON	
	R989	QRD167J-221	220 1/6W CARBON	
	RA601	GRB045J-472	4.7K 1/8W R.NETWORK	

△ : SAFETY PARTS

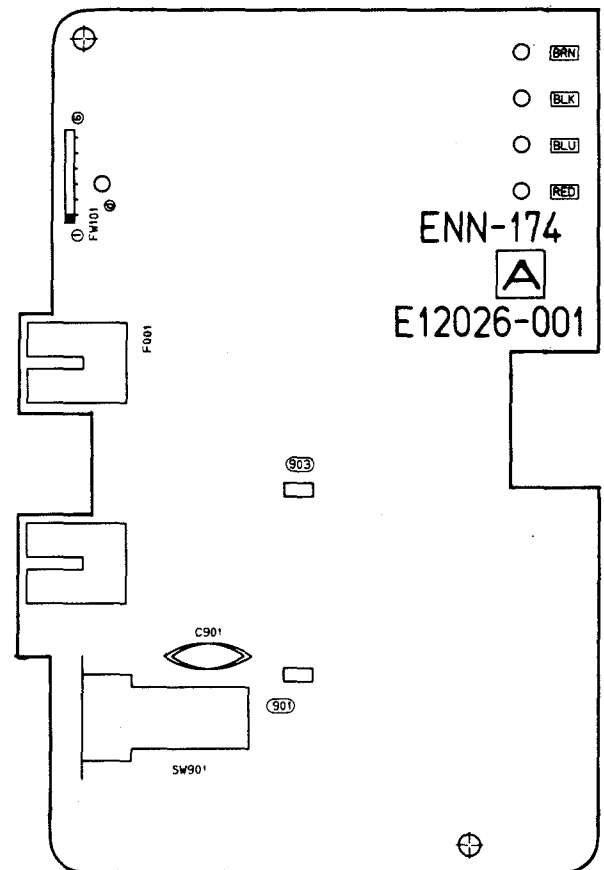
OTHERS

△	ITEM	PART NUMBER	DESCRIPTION	AREA
		EWTO11-070	TERMINAL WIRE	
		EWTO11-079	TERMINAL WIRE	
		EWTO11-110	TERMINAL WIRE	
		E11959-003	CIRCUIT BOARD	
		E11959-003BS	CIRCUIT BOARD	DBS
		E65508-002	TAB	C
		E65508-002	TAB	DBS
		E65508-002	TAB	DBS
		E65508-002	TAB	DBS
		E70306-001	HEAT SINK	
		SBSSE3008CC	SCREW	
	J970	QMS6302-136	HEADPHONE JACK	
	L401	ENZ3001-002	OSC.COIL	
	P110	EMV5111-006	PLUG ASSY	
	P201	EMV7123-024	CONNECTOR	
	P420	EMV5125-010	PLUG ASSY	
	P501	EMV5109-010A	PLUG ASSY	
	P502	EMV5109-004A	PLUG ASSY	
	P803	EMV5111-007	PLUG ASSY	
	S901	QSP4C11-E01	PUSH SWITCH	C
	S901	QSP4C11-E01	PUSH SWITCH	DBS
	S901	QSP4C11-E01	PUSH SWITCH	DBS
	S901	QSP4C11-E01	PUSH SWITCH	DBS
	S901	QSP4C11-E01BS	PUSH SWITCH	DBS
	X150	ECX0169-344EA	RESONATOR	
	BC970	EWS246-009	SOCKET WIRE	
	FW101	EW368-40SST	FLAT WIRE	C
	FW101	EW368-40SST	FLAT WIRE	DBS
	FW101	EW368-40SST	FLAT WIRE	DBS
	FW101	EW368-40SST	FLAT WIRE	DBS
	FW970	EW338-50LST	FLAT WIRE	
	FW971	EW338-10LST	FLAT WIRE	
	JT101	EMV7122-003	CONNECTOR	B
	JT102	EMV7122-003	CONNECTOR	B
	JT971	EMV7122-003	CONNECTOR	
	MV970	QVJ8948-E248	V.RESISTOR	
	SW902	QSS1L22-E01	SLIDE SWITCH	E

△ : SAFETY PARTS

■ ENN-174 □ Power Primary PC Board Ass'y

Note: ENN-174 □ Varies according to the areas employed.
See note (1) when placing an order.



Note (1)

PC Board Ass'y	Designated Areas
ENN-174 △	the U.S.A., Canada

OTHERS

△	ITEM	PART NUMBER	DESCRIPTION	AREA
		E03675-004	FUSE CLIP	
		E12026-001	CIRCUIT BOARD	
		E65508-002	TAB	
		QCZ9038-103	C.CAPACITOR	
		QSP4C11-E01	PUSH SWITCH	
△	F001	QMF61U1-1R0	FUSE	
	FW101	EW368-40LST	FLAT WIRE	

△ : SAFETY PARTS

TRANSISTORS

ITEM	PART NUMBER	DESCRIPTION		AREA
		MAKER		
Q301	2SD313V(D,E)	SILICON	SANYO	
Q302	2SB507V(D,E)	SILICON	SANYO	
Q303	2SC458(C,D)	SILICON	HITACHI	
Q304	2SC458(C,D)	SILICON	HITACHI	
Q305	2SA1029(C,D)	SILICON	HITACHI	
Q306	DTA114YS	SILICON	ROHM	
Q307	2SK170(V)	F.E.T	TOSHIBA	
Q308	2SK170(V)	F.E.T	TOSHIBA	
Q309	2SC3068	SILICON	SANYO	
Q310	2SC3068	SILICON	SANYO	
Q311	2SC3068	SILICON	SANYO	
Q312	2SC3068	SILICON	SANYO	
Q313	2SC3068	SILICON	SANYO	
Q314	2SC3068	SILICON	SANYO	
Q910	2SA1029(C,D)	SILICON	HITACHI	

Δ : SAFETY PARTS

I. C. S

△	ITEM	PART NUMBER	DESCRIPTION		AREA
				MAKER	
	IC301	NJM78M05FA	I.C.	JRC	
	IC302	TC74HC175AP	I.C.	TOSHIBA	
	IC303	PCMS6P-J	I.C.	BUR	
	IC304	PCMS6P-J	I.C.	BUR	
	IC305	NJM5532D	I.C.	JRC	
	IC306	NJM5532D	I.C.	JRC	
	IC307	6N137	I.C.	MITSUBISHI	
	IC308	NJM78M06FA	I.C.	JRC	
	IC309	NJM79M06FA	I.C.	JRC	
	IC910	VC4095-1	I.C.	FUJITSU	
	IC911	TC74HC74AP	I.C.	TOSHIBA	
	IC912	TC74HC04AP	I.C.	TOSHIBA	
	IC913	6N137	I.C.	MITSUBISHI	
	IC914	6N137	I.C.	MITSUBISHI	
	IC915	PC817A	I.C.	SHARP	
	IC916	6N137	I.C.	MITSUBISHI	
	IC917	6N137	I.C.	MITSUBISHI	
	IC918	VC4098	I.C.	FUJITSU	
	IC919	YM3414	I.C.	YAMAHA	
	IC920	TC74HC00AP	I.C.	TOSHIBA	

Δ : SAFETY PARTS

DIODES

PART NUMBER		DESCRIPTION		AREA
ITEM			MAKER	
	D302	11E2	SILICON	NIT
	D303	HZ12A2-L	ZENER	HITACHI
	D304	HZ12A2-L	ZENER	HITACHI
	D305	MT25.6JC	ZENER	ROHM
	D306	1SS133	SILICON	ROHM
	D307	1SS133	SILICON	ROHM
	D308	1SS133	SILICON	ROHM
	D309	1SS133	SILICON	ROHM
	D310	1SS133	SILICON	ROHM
	D311	1SS133	SILICON	ROHM
	D312	1SS133	SILICON	ROHM
	D313	3ODF2FC	SILICON	NIT
	D314	3ODF2FC	SILICON	NIT
	D315	3ODF2FC	SILICON	NIT
	D316	3ODF2FC	SILICON	NIT
	D910	1SS133	SILICON	ROHM
	D911	1SS133	SILICON	ROHM
	D912	1SS133	SILICON	ROHM
	D913	1SS133	SILICON	ROHM

Δ : SAFETY PARTS

CAPACITORS

CAPACITORS					
△	ITEM	PART NUMBER	DESCRIPTION		AREA
	C301	EFZ0096-223	0.022MF		M.MYLAR
	C302	EFZ0096-223	0.022MF		M.MYLAR
	C303	EFZ0101-223S	0.022MF		M.MYLAR
	C304	EEZ5005-228	2200MF		ELECTRO
	C305	EEZ5005-228	2200MF		ELECTRO
	C310	QETB1EM-107	100MF	25V	ELECTRO
	C311	QETB1EM-107	100MF	25V	ELECTRO
	C312	EEZ5006-477	470MF		ELECTRO
	C313	EEZ5006-477	470MF		ELECTRO
	C314	EFZ0096-223	0.022MF		M.MYLAR
	C315	EFZ0096-223	0.022MF		M.MYLAR
	C316	EEZ3502-108T	1000MF		ELECTRO
	C318	EEZ5006-107	100MF		ELECTRO
	C319	QETB1CM-477	470MF	16V	ELECTRO
	C320	QETB1EM-106	10MF	25V	ELECTRO

Δ : SAFETY PARTS

CAPACITORS

A	ITEM	PART NUMBER	DESCRIPTION			AREA
	C321	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C322	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C323	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C324	EFZ0101-103	0.01MF		M.MYLAR	
	C325	EEZ5011-107E	100MF		ELECTRO	
	C326	EEZ5011-107E	100MF		ELECTRO	
	C327	QCSB1HJ-100	10PF	50V	CERAMIC	
	C328	QCSB1HJ-100	10PF	50V	CERAMIC	
	C329	EFZ0101-104S	0.1MF		M.MYLAR	
	C330	EFZ0101-104S	0.1MF		M.MYLAR	
	C331	EFZ0101-104S	0.1MF		M.MYLAR	
	C332	EFZ0101-104S	0.1MF		M.MYLAR	
	C333	EFZ0101-103S	0.01MF		M.MYLAR	
	C334	EFZ0101-103S	0.01MF		M.MYLAR	
	C335	EFZ0096-223	0.022MF		M.MYLAR	
	C336	EFZ0096-223	0.022MF		M.MYLAR	
	C337	EFZ0096-223	0.022MF		M.MYLAR	
	C338	EFZ0096-223	0.022MF		M.MYLAR	
	C339	EFZ0101-271S	270PF		M.MYLAR	
	C340	EFZ0101-271S	270PF		M.MYLAR	
	C341	EFZ0096-223	0.022MF		M.MYLAR	
	C342	EFZ0096-223	0.022MF		M.MYLAR	
	C343	EFZ0101-683S	0.068MF		M.MYLAR	
	C344	EFZ0101-683S	0.068MF		M.MYLAR	
	C345	EFZ0101-202S	2000PF		M.MYLAR	
	C346	EFZ0101-202S	2000PF		M.MYLAR	
	C347	EFZ0101-113S	0.011MF		M.MYLAR	
	C348	EFZ0101-113S	0.011MF		M.MYLAR	
	C349	EFZ0096-223	0.022MF		M.MYLAR	
	C350	EFZ0096-223	0.022MF		M.MYLAR	
	C351	EEZ5012-476N	10MF		ELECTRO	
	C352	EEZ5012-476N	10MF		ELECTRO	
	C355	EFZ0097-103	0.01MF		M.MYLAR	
	C356	EFZ0097-103	0.01MF		M.MYLAR	
	C359	EFZ0101-683S	0.068MF		M.MYLAR	
	C361	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C362	EEZ5009-107	100MF		ELECTRO	
	C363	EEZ5012-476N	10MF		ELECTRO	
	C364	EEZ5012-476N	10MF		ELECTRO	
	C365	QCSB1HK-121	120PF	50V	CERAMIC	
	C912	QETB1EM-106	10MF	25V	ELECTRO	
	C913	QCZ0205-155	1.5MF	25V	CERAMIC	
	C914	QETB1AM-107	100MF	10V	ELECTRO	
	C915	QCZ0205-155	1.5MF	25V	CERAMIC	
	C916	QETB1AM-107	100MF	10V	ELECTRO	
	C917	QETB1AM-476	47MF	10V	ELECTRO	
	C918	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C919	EEZ5009-107	100MF		ELECTRO	
	C920	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C921	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C922	QETB1AM-476	47MF	10V	ELECTRO	
	C923	QETB1AM-476	47MF	10V	ELECTRO	
	C924	QCSB1HJ-330	33PF	50V	CERAMIC	
	C926	QCZ0205-155	1.5MF	25V	CERAMIC	
	C927	QCZ0205-155	1.5MF	25V	CERAMIC	
	C929	QCZ0205-155	1.5MF	25V	CERAMIC	
	C930	QETB1AM-476	47MF	10V	ELECTRO	
	C931	QCZ0205-155	1.5MF	25V	CERAMIC	
	C932	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C933	QETB1AM-476	47MF	10V	ELECTRO	
	C934	QETB1EM-106	10MF	25V	ELECTRO	
	C935	QCZ0205-155	1.5MF	25V	CERAMIC	
	C936	QETB1AM-107	100MF	10V	ELECTRO	
	C937	QCZ0205-155	1.5MF	25V	CERAMIC	
	C938	QCHB1EZ-223	0.022MF	25V	CERAMIC	
	C939	QCT30CH-8R2	8.2PF	50V	CERAMIC	
	C940	QCT30CH-8R2	8.2PF	50V	CERAMIC	
	C941	QCZ0205-155	1.5MF	25V	CERAMIC	
	C943	QFV81HJ-223	0.022MF	50V	T.FILM	
	C944	EEZ5009-107	100MF		ELECTRO	
	C946	QCSB1HJ-560	56PF	50V	CERAMIC	
	C947	QCSB1HK-221	220PF	50V	CERAMIC	
	C948	EFZ0101-683S	0.068MF		M.MYLAR	
	C955	QCSB1HK-121	120PF	50V	CERAMIC	
	C956	QCSB1HJ-560	56PF	50V	CERAMIC	
	C957	QCSB1HK-121	120PF	50V	CERAMIC	
	C958	QCSB1HK-820	82PF	50V	CERAMIC	
	C959	QCSB1HJ-560	56PF	50V	CERAMIC	
	C960	QCSB1HJ-560	56PF	50V	CERAMIC	
	C961	QCSB1HK-820	82PF	50V	CERAMIC	
	C962	QCSB1HK-820	82PF	50V	CERAMIC	
	C963	QCSB1HK-820	82PF	50V	CERAMIC	
	C964	QCSB1HK-820	82PF	50V	CERAMIC	
	C966	QCSB1HK-820	82PF	50V	CERAMIC	
	C967	QCSB1HK-820	82PF	50V	CERAMIC	
	C968	QCSB1HK-820	82PF	50V	CERAMIC	
	C969	QCSB1HK-820	82PF	50V	CERAMIC	
	C980	QFV81HJ-103	0.01MF	50V	T.FILM	
	C981	QCF21HP-223	0.022MF	50V	CERAMIC	
	C982	QCS21HJ-560	56PF	50V	CERAMIC	
	C983	QCS21HJ-220	22PF	50V	CERAMIC	

Δ : SAFETY PARTS

RESISTORS

△	ITEM	PART NUMBER	DESCRIPTION			AREA
△	R301	ERD141J-122S	1.2K	1/4W	CARBON	
	R302	ERD141J-121S	120	1/4W	CARBON	
	R303	QRZ0077-100	10	1/4W	FUSIBLE	
	R304	ERD141J-122S	1.2K	1/4W	CARBON	
	R305	ERD141J-121S	120	1/4W	CARBON	
△	R306	QRZ0077-100	10	1/4W	FUSIBLE	
	R307	QRD167J-102	1K	1/6W	CARBON	
	R308	QRD167J-183	18K	1/6W	CARBON	
	R309	QRD167J-183	18K	1/6W	CARBON	
	R310	QRD167J-333	33K	1/6W	CARBON	
	R311	QRD167J-181	180	1/6W	CARBON	
	R312	QRD167J-181	180	1/6W	CARBON	
	R313	QRD167J-104	100K	1/6W	CARBON	
	R314	QRD167J-183	18K	1/6W	CARBON	
	R315	QRD167J-181	180	1/6W	CARBON	
	R316	QRD167J-471	470	1/6W	CARBON	
	R317	QRD167J-104	100K	1/6W	CARBON	
	R318	QRD167J-105	1M	1/6W	CARBON	
	R319	ERD141J-561S	560	1/4W	CARBON	
	R320	ERD141J-271S	270	1/4W	CARBON	
	R321	QRD167J-224	220K	1/6W	CARBON	
	R322	QRD167J-224	220K	1/6W	CARBON	
	R323	QRD167J-114	110K	1/6W	CARBON	
	R324	QRD167J-114	110K	1/6W	CARBON	
	R325	QRD167J-101	100	1/6W	CARBON	
	R326	QRD167J-101	100	1/6W	CARBON	
	R327	QRD167J-224	220K	1/6W	CARBON	
	R328	QRD167J-224	220K	1/6W	CARBON	
	R329	QVPA601-104A	100K		VARIABLE	
	R330	QVPA601-104A	100K		VARIABLE	
	R331	QRD167J-474	470K	1/6W	CARBON	
	R332	QRD167J-474	470K	1/6W	CARBON	
	R335	QRD167J-105	1M	1/6W	CARBON	
	R336	QRD167J-105	1M	1/6W	CARBON	
	R337	QRD167J-330	33	1/6W	CARBON	
	R338	QRD167J-330	33	1/6W	CARBON	
	R339	QRD167J-104	100K	1/6W	CARBON	
	R340	QRD167J-104	100K	1/6W	CARBON	
	R341	ERD141J-471S	470	1/4W	CARBON	
	R342	QRD167J-471	470	1/6W	CARBON	
	R343	ERD141J-561S	560	1/4W	CARBON	
	R344	ERD141J-561S	560	1/4W	CARBON	
	R345	ERD141J-471S	470	1/4W	CARBON	
	R346	ERD141J-471S	470	1/4W	CARBON	
	R347	ERD141J-471S	470	1/4W	CARBON	
	R348	ERD141J-471S	470	1/4W	CARBON	
	R349	ERD141J-300S	30	1/4W	CARBON	
	R350	ERD141J-300S	30	1/4W	CARBON	
	R351	ERD141J-221S	220	1/4W	CARBON	
	R352	ERD141J-221S	220	1/4W	CARBON	
	R353	ERD141J-150S	15	1/4W	CARBON	
	R354	ERD141J-150S	15	1/4W	CARBON	
	R355	ERD141J-105S	1M	1/4W	CARBON	
	R356	ERD141J-105S	1M	1/4W	CARBON	
	R357	QRD167J-182	1.8K	1/6W	CARBON	
	R358	QRD167J-182	1.8K	1/6W	CARBON	
	R359	ERD141J-621S	620	1/4W	CARBON	
	R360	ERD141J-621S	620	1/4W	CARBON	
	R361	ERD141J-681S	680	1/4W	CARBON	
	R362	ERD141J-681S	680	1/4W	CARBON	
	R363	ERD141J-101S	100	1/4W	CARBON	
	R364	ERD141J-101S	100	1/4W	CARBON	
	R365	ERD141J-272S	2.7K	1/4W	CARBON	
	R366	ERD141J-272S	2.7K	1/4W	CARBON	
	R367	ERD141J-273S	27K	1/4W	CARBON	
	R368	ERD141J-273S	27K	1/4W	CARBON	
	R369	ERD124J-101	100	1/2W	R.NETWORK	
	R370	ERD124J-101	100	1/2W	R.NETWORK	
	R371	QRD167J-103	10K	1/6W	CARBON	
	R372	QRD167J-103	10K	1/6W	CARBON	
	R373	ERD124J-101	100	1/2W	R.NETWORK	
	R374	ERD124J-101	100	1/2W	R.NETWORK	
	R375	QRD167J-103	10K	1/6W	CARBON	
	R376	QRD167J-103	10K	1/6W	CARBON	
	R377	ERD001J-101	100		R.NETWORK	
	R378	ERD001J-101	100		R.NETWORK	
	R379	ERD141J-331S	330	1/4W	CARBON	
	R380	ERD141J-331S	330	1/4W	CARBON	
	R381	QRD167J-181	180	1/6W	CARBON	
	R382	QRD167J-181	180	1/6W	CARBON	
	R383	QRD167J-103	10K	1/6W	CARBON	
	R384	QRD167J-471	470	1/6W	CARBON	
	R385	QRD167J-471	470	1/6W	CARBON	
	R386	QRD167J-471	470	1/6W	CARBON	
	R387	ERD141J-104S	100K	1/4W	CARBON	
	R388	QRD167J-105	1M	1/6W	CARBON	
	R389	ERD124J-182	1.2K	1/6W	CARBON	
	R390	QRD167J-820	82	1/6W	CARBON	
	R391	QRD167J-820	82	1/6W	CARBON	
	R392	QRD167J-680	68	1/6W	CARBON	

△ : SAFETY PARTS

RESISTORS

△	ITEM	PART NUMBER	DESCRIPTION			AREA
	R393	QRD167J-560	56	1/8W	CARBON	
	R394	QRD167J-560	56	1/6W	CARBON	
	R395	QRD167J-121	120	1/6W	CARBON	
	R396	QRD167J-560	56	1/6W	CARBON	
	R397	QRD167J-560	56	1/6W	CARBON	
	R398	QRD167J-820	82	1/6W	CARBON	
	R910	QRD167J-102	1K	1/6W	CARBON	
	R911	QRD167J-221	220	1/6W	CARBON	
	R912	QRD167J-102	1K	1/6W	CARBON	
	R913	QRD167J-102	1K	1/6W	CARBON	
	R914	QRD167J-223	22K	1/6W	CARBON	
	R915	QRD167J-101	100	1/6W	CARBON	
	R916	QRD167J-101	100	1/6W	CARBON	
	R917	QRD167J-391	390	1/6W	CARBON	
	R919	QRD167J-271	270	1/6W	CARBON	
	R920	QRD167J-101	100	1/6W	CARBON	
	R921	QRD167J-391	390	1/6W	CARBON	
	R923	QRD167J-271	270	1/6W	CARBON	
	R924	QRD167J-101	100	1/6W	CARBON	
	R925	QRD167J-101	100	1/6W	CARBON	
	R926	QRD167J-271	270	1/6W	CARBON	
	R928	QRD167J-391	390	1/6W	CARBON	
	R929	QRD167J-101	100	1/6W	CARBON	
	R930	QRD167J-472	4.7K	1/6W	CARBON	
	R931	QRD167J-820	82	1/6W	CARBON	
	R932	QRD167J-821	820	1/6W	CARBON	
	R933	QRD167J-100	10	1/6W	CARBON	
	R934	QRD167J-750	75	1/6W	CARBON	
	R935	QRD167J-271	270	1/6W	CARBON	
	R936	QRD167J-333	33K	1/6W	CARBON	
	R937	QRD167J-101	100	1/6W	CARBON	
	R938	QRD167J-101	100	1/6W	CARBON	
	R939	QRD167J-271	270	1/6W	CARBON	
	R941	QRD167J-820	82	1/6W	CARBON	
	R942	QRD167J-391	390	1/6W	CARBON	
	R943	QRD167J-560	56	1/6W	CARBON	
	R944	QRD167J-223	22K	1/6W	CARBON	
	R945	QRD167J-560	56	1/6W	CARBON	
	R946	QRD167J-560	56	1/6W	CARBON	
	R947	QRD167J-560	56	1/6W	CARBON	
	R948	QRD167J-560	56	1/6W	CARBON	
	R949	QRD167J-560	56	1/6W	CARBON	
	R950	QRD167J-560	56	1/6W	CARBON	
	R951	QRD167J-560	56	1/6W	CARBON	
	R952	ERD141J-105S	1M	1/4W	CARBON	
	R953	QRD167J-272	2.7K	1/6W	CARBON	

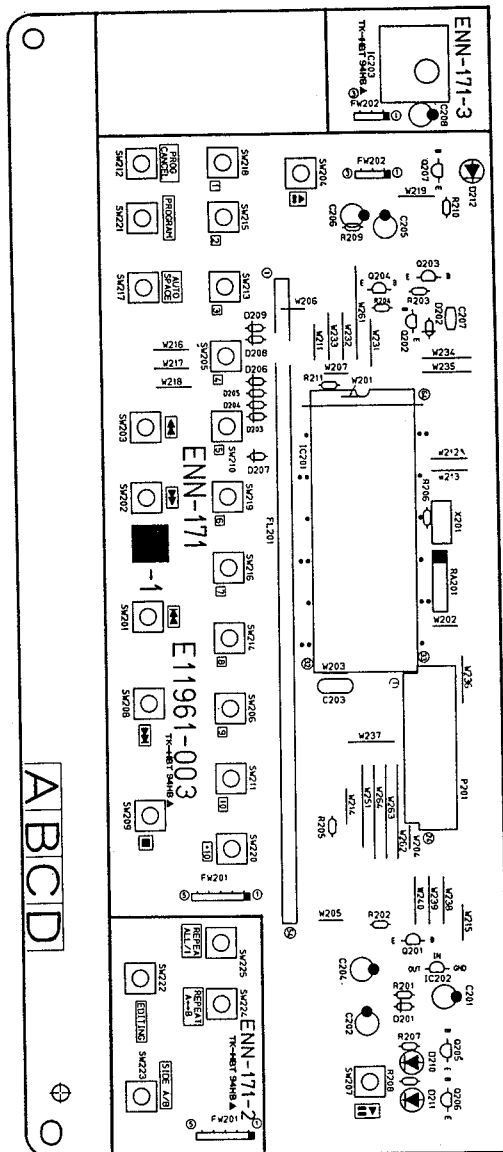
△ : SAFETY PARTS

OTHERS

△	ITEM	PART NUMBER	DESCRIPTION			AREA
		FWT011-110	TERMINAL WIRE			
		E11960-003	CIRCUIT BOARD			
		E48269-001	SPACER			
		E65508-002	TAB			
		E70306-005	HEAT SINK			
		SBSE3008CC	SCREW			
	J301	EMN00YV-405A	4P PIN JACK			
	J302	QMS3501-020	MINI JACK			
	J310	EMV7122-003	CONNECTOR			
	J910	EMV7125-010R	CONNECTOR			
	J911	EMV7125-016R	CONNECTOR			
	J912	HFB8-1550	OPTICAL JACK			
	J913	EMN00TV-109A	1P PIN JACK			
	K301	ENZ8101-007	INDUCTOR			
	K910	ENZ8101-011	FERRITE BEADS			
	K911	ENZ8101-011	FERRITE BEADS			
	K912	ENZ8101-011	FERRITE BEADS			
	L301	EGL4004-1R0	INDUCTOR			
	L910	ENZ3003-001	COIL			
	L911	EGL4004-1R0	INDUCTOR			
	L912	EGL4004-1R0	INDUCTOR			
	P301	E67764-004	WRAPPING TERMINAL			
	P311	EMV5111-006	PLUG ASSY			
	S910	QSS1F22-E01	SLIDE SWITCH			
	X910	ECX0169-344EA	RESONATOR			
	CN302	EMV5125-016	PLUG ASSY			

△ : SAFETY PARTS

■ ENN-171 B Front PC Board Ass'y



TRANSISTORS

ITEM	PART NUMBER	DESCRIPTION	AREA	
			MAKER	
Q201	DTC114YS	SILICON	ROHM	
Q202	DTA114YS	SILICON	ROHM	
Q203	DTC114YS	SILICON	ROHM	
Q204	DTA143XS	SILICON	ROHM	
Q205	DTA114YS	SILICON	ROHM	
Q206	DTA114YS	SILICON	ROHM	
Q207	DTA114YS	SILICON	ROHM	

Δ : SAFETY PARTS

I. C. S

ITEM	PART NUMBER	DESCRIPTION	AREA	
			MAKER	
IC201	HD614081SA26	I.C.	HITACHI	
IC202	MN1281(P,Q)	I.C.	MATSUSHITA	
IC203	GP1U501X	I.C.	SHARP	

Δ : SAFETY PARTS

DIODES

ITEM	PART NUMBER	DESCRIPTION AREA	
			MAKER
D201	1SS133	SILICON	ROHM
D202	1SS133	SILICON	ROHM
D203	1SS119	SILICON	HITACHI
D204	1SS119	SILICON	HITACHI
D205	1SS119	SILICON	HITACHI
D206	1SS119	SILICON	HITACHI
D207	1SS119	SILICON	HITACHI
D208	1SS119	SILICON	HITACHI
D209	1SS119	SILICON	HITACHI
D210	SLR-340C50F124	L.E.D.	ROHM
D211	SLR-340C50F124	L.E.D.	ROHM
D212	SLV-31YC50F124	L.E.D.	ROHM

Δ : SAFETY PARTS

CAPACITORS

△	ITEM	PART NUMBER	DESCRIPTION			AREA
	C201	QER60JM-107	100MF	6.3V	ELECTRO	
	C202	QER60JM-476	47MF	6.3V	ELECTRO	
	C203	QCZ0205-155	1.5MF	25V	CERAMIC	
	C204	QER61HM-475	4.7MF	50V	ELECTRO	
	C205	QER61HM-475	4.7MF	50V	ELECTRO	
	C206	QEK61VM-106	10MF	35V	ELECTRO	
	C207	QCBB1HK-331	330PF	50V	CERAMIC	
	C208	QER60JM-476	47MF	6.3V	ELECTRO	

Δ : SAFETY PARTS

RESISTORS

ITEM	PART NUMBER	DESCRIPTION		AREA
R201	QRD167J-821	820	1/6W	CARBON
R202	QRD167J-103	10K	1/6W	CARBON
R203	QRD167J-472	4.7K	1/6W	CARBON
R204	QRD167J-104	100K	1/6W	CARBON
R205	QRD167J-103	10K	1/6W	CARBON
R206	QRD167J-105	1M	1/6W	CARBON
R207	QRD167J-681	680	1/6W	CARBON
R208	QRD167J-751	750	1/6W	CARBON
R209	QRD167J-473	47K	1/6W	CARBON
R210	QRD167J-121	120	1/6W	CARBON
R211	QRD167J-102	1K	1/6W	CARBON
RA201	QRB045J-473	47K	1/8W	R.NETWORK

Δ : SAFETY PARTS

OTHERS

ITEM	PART NUMBER	DESCRIPTION	AREA
	E11961-003(S)	CIRCUIT BOARD	
	E3400-379	FL SPACER	
P201	EMV7123-024R	CONNECTOR	
X201	ECX0004-194KM	RESONATOR	
FL201	ELU0001-075	FL TUBE	
FW201	EWR358-25SST	FLAT WIRE	
FW202	EWR338-25SST	FLAT WIRE	
SW201	ESP0001-018	TACT SWITCH	
SW202	ESP0001-018	TACT SWITCH	
SW203	ESP0001-018	TACT SWITCH	
SW204	ESP0001-018	TACT SWITCH	
SW205	ESP0001-018	TACT SWITCH	
SW206	ESP0001-018	TACT SWITCH	
SW207	ESP0001-018	TACT SWITCH	
SW208	ESP0001-018	TACT SWITCH	
SW209	ESP0001-018	TACT SWITCH	
SW210	ESP0001-018	TACT SWITCH	
SW211	ESP0001-018	TACT SWITCH	
SW212	ESP0001-018	TACT SWITCH	
SW213	ESP0001-018	TACT SWITCH	
SW214	ESP0001-018	TACT SWITCH	
SW215	ESP0001-018	TACT SWITCH	
SW216	ESP0001-018	TACT SWITCH	
SW217	ESP0001-018	TACT SWITCH	
SW218	ESP0001-018	TACT SWITCH	
SW219	ESP0001-018	TACT SWITCH	
SW220	ESP0001-018	TACT SWITCH	
SW221	ESP0001-018	TACT SWITCH	
SW222	ESP0001-018	TACT SWITCH	
SW223	ESP0001-018	TACT SWITCH	
SW224	ESP0001-018	TACT SWITCH	
SW225	ESP0001-018	TACT SWITCH	

Δ : SAFETY PARTS

Accessories List

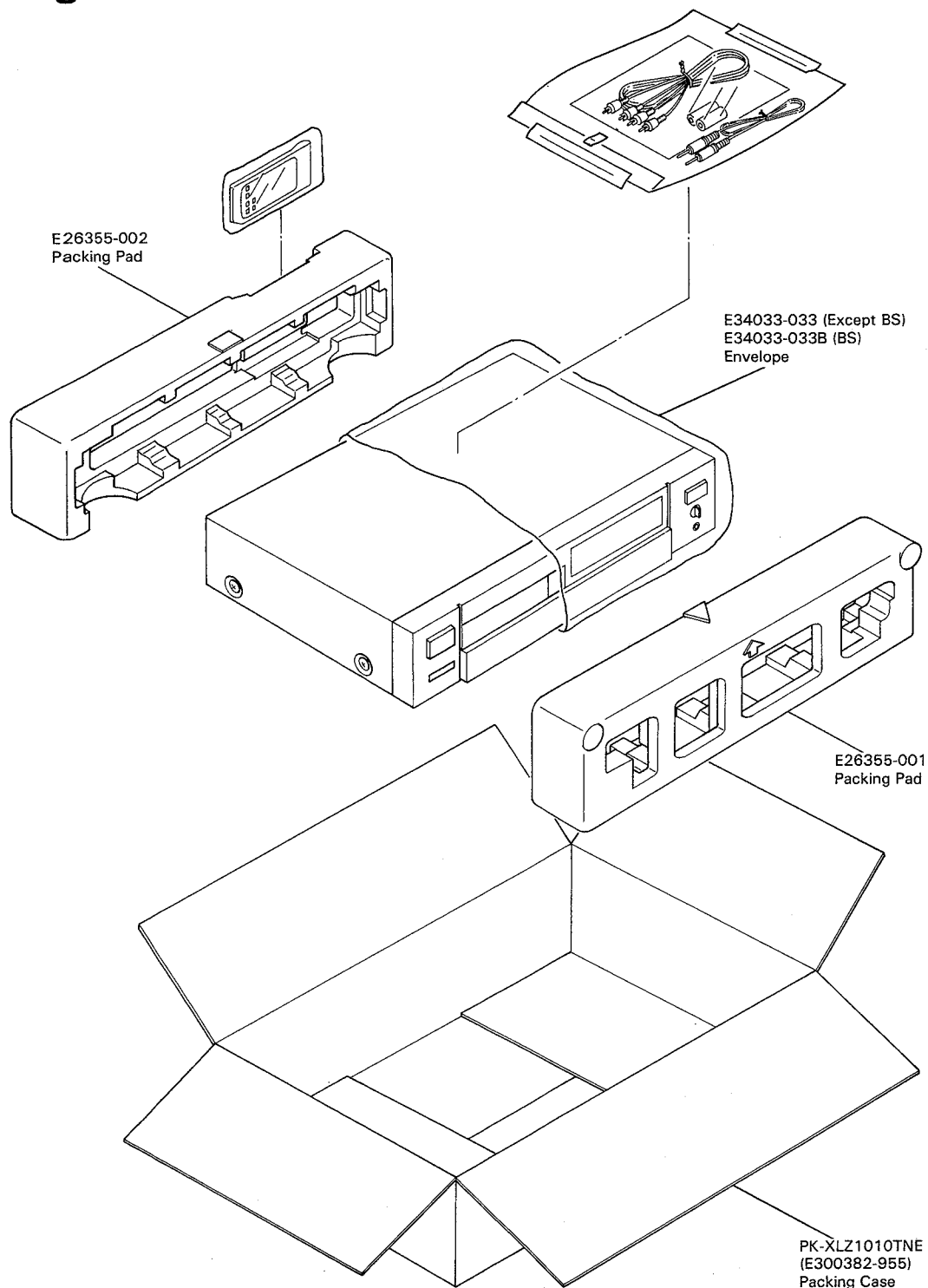
△	Part Number	Part Name	Q'ty	Description	Areas
	E30580-1520A E30580-1520ABS BT20044F BT20025K BT20071A	Instruction Book Instruction Book Safety Instruction Sheet Warranty Card Service Center List	1 1 1 1 1		Except for BS BS J C C
	BT20029C BT20060 BT20066A BT20064A EWP805-009K	Warranty Card Warranty Card ECC Agency Warranty Card 1P Plug Cord	1 1 1 1 1	for Australia	A BS G, BS G
	EWP302-013K BT20098 UM-4NJ-2PSA E66416-003 BT20047D	Signal Cord Warranty Card Battery Envelope Warranty Card	1 1 1 1 1	for New Zealand	A J J
△	BT20108 E41202-2 E41202-2B E04056 E35497-019	Service Information Envelope Envelope Siemens Plug Caution Sheet	1 1 1 1 1	(220V)	J Except for BS BS U U
	RM-SX1010U	Remote Control Unit	1		

△ : Safety Parts

The Marks for Designated Areas

J	.....	the U.S.A.	A	.....	Australia
C	.....	Canada	G	.....	West Germany
U	.....	Other Countries	BS	.....	the U.K.
E	.....	Europe	No mark indicates all areas.		

Packing Materials and Part Numbers



The Marks for Designated Areas

J	.....	the U.S.A.	A	.....	Australia
C	.....	Canada	G	.....	West Germany
U	.....	Other Countries	BS	.....	the U.K.
E	.....	Europe	No mark indicates all areas.		

XL-Z1010TN